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Dimethylaminooethyl
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Lauryl
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two weeks ago, last month and
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Chemical Prices Start on Page 32

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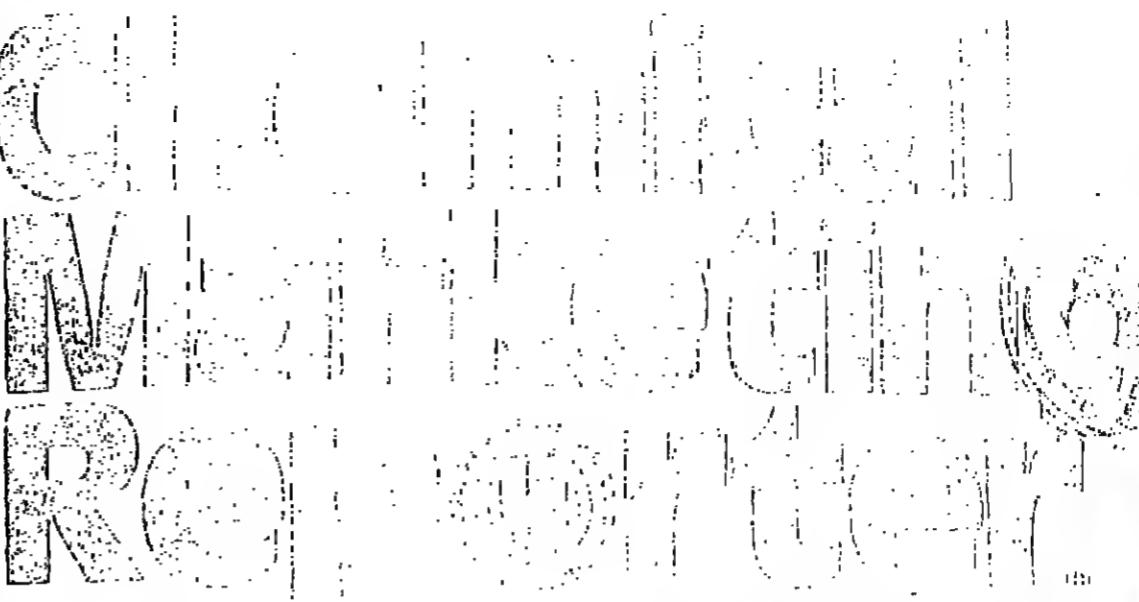
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PHENOL: Price advance faltered despite strong

market

GUAR GUM: Supplies have dwindled, but the

market is still balanced by poor demand



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NEWS

MARKET

INDEX

ADVERTISING

CLASSIFIED

NOTES

OBITUARIES

Drug Regulation User Fees Backed

With the Gramm-Rudman-Hollings balanced budget law resulting in a prospective cut of some \$28 million from the Food & Drug Administration budget, Sen. Orrin Hatch (R-Utah), is sponsoring legislation that would shore up funding for the agency's drug approval process.

The Hatch bill would require the Secretary of Health & Human Services to establish fees for the review of applications for marketing approval of human drugs, antithetics and biological products.

"The functions of FDA are vital to the health of our citizens," says Sen. Hatch, chairman of the Senate Labor & Human Resources Committee.

"To carry out its legislative mandate, FDA must maintain sophisticated laboratories, a corps of scientific and health professionals, and numerous field officers who inspect manufacturing and processing facilities and monitor compliance with the law at the local level. Significant cuts in the funds devoted to these duties carry significant risks for our people," says the senator.

The most predictable risk, says Sen. Hatch, is the lengthening of the "already unconscionably long" period of time which a new drug must spend in FDA review.

This would result in "needless suffering on the part of those who will benefit from new drug therapies which often avoid far more costly forms of treatment," says Sen. Hatch.

The time period for approval could take up to an additional two and a half years if funding for the approval process is cut, he warns.

Under provisions of the New Drug Application Fee Amendments of 1986, HHS would assign appropriate

fees for the application for review of a new drug, antithetic or biological product.

The bill states that these fees would be used only for costs connected with carrying out the approval activity. HHS would also have the option to waive or reduce the fees in cases where the public interest would be served.

Exempted from the bill are Abbreviated New Drug Applications (generic drugs) and investigational new drug exemptions which do not result in a new drug application.

"Since the manufacturer is the primary economic beneficiary of an approved drug application, it is only logical that the cost of the approval process be part of the manufacturer's investment," says Sen. Hatch. "This should bridge the Gramm-Rudman-Hollings gap while making the drug approval process self-supporting."

The House recently voted to appropriate \$437 million for FDA in fiscal 1987.

VOLUME 230
Number 7

Chemical Marketing Reporter

AUGUST 18, 1986

FIFRA Finally Gets Through the Senate

Sweeping legislation designed to reauthorize and update the Federal law regulating the sale and use of pesticides was unanimously approved by the Senate Agriculture Committee last week.

Lawmakers and congressional aides said the strong vote sending the measure to the full Senate adds momentum to a determined effort by Congress to pass amendments to the Federal Insecticide, Fungicide & Rodenticide Act this year.

The House Agriculture Committee approved its version of the bill June 18, and the House Rules Committee met Friday to clear the way for floor consideration next month. The Senate is also expected to vote on FIFRA in September.

While both bills would speed up the sluggish process of pesticide review by Environmental Protection Agency, the Senate measure would also extend patent life for agricultural chemicals and limit the ability of states to impose stricter standards for pesticide residues on food than those of the Federal government.

"This bill puts an end to years of controversy on a number of issues," said Sen. Jesse Helms (R-N.C.), chairman of the Senate Agriculture Committee.

"After many long hours of negotiation and modification, the FIFRA law will now better address itself to the problems farmers encounter in modern-day agriculture," said Sen. Helms. "The bill is a workable compromise that will benefit producers, consumers, manufacturers, environmentalists, and others affected by the use of pesticides."

If Congress is able to complete work on FIFRA before it adjourns for the year in early October, it would represent the first comprehensive rewrite of the law in 14 years.

Progress has been hindered by a persistent dispute between the chemical industry and environmentalists, a logjam broken this year when the two sides finally worked out compromises on the primary issues in the bill.

The Senate committee adopted most of the major provisions of the House bill, but several major amendments were added.

Most significantly, the panel approved an amendment by Sen. Edward Zorinsky (D-Neb.) to extend the patent life of pesticide

products, a top legislative priority of the National Agricultural Chemicals Association.

The amendment represents a negotiated compromise between an organization of 11 major chemical companies that conduct basic research and development work on pesticides, and the Pesticide Producers Association, a group representing small to medium size pesticide companies that seek to market generic products.

Under the agreement, the patents of a pesticide subject to regulatory review procedures at EPA may be extended for a term equal to the time lost during the review up to a maximum of five years.

In addition, it would not be considered a patent infringement to conduct tests on a registered pesticide receiving a patent term.

Continued on Page 21

Toxic Waste Dump in Missouri Seen Worse Than Love Canal

Congress was warned last week that toxic waste contamination at an idled chemicals processing plant in a rural Missouri community would "wipe out that entire town," said Mr. Badame.

The plant ceased operations last March and the company is the subject of bankruptcy proceedings by creditors. From 1982, the plant processed and disposed of materials contaminated with PCB's.

The chemicals, suspected of causing cancer and birth defects, are heat-resistant compounds used mainly as coolants in transformers, capacitors and other electrical equipment.

Lawmakers were told that an estimated 15 to 20 million pounds of PCB's were still stored at the plant, and cleaning them up could cost at least \$20 million and take up to two years.

EPA regional administrator Mortie Kay conceded there was extensive contamination at the plant but said regulators had properly monitored the operation.

EPA inspectors found record-keeping problems and other violations at the plant since 1983. The agency levied fines, and the company agreed to correct the problems, he said.

PESTICIDE LIFTOFF: Legislation passed by Senate adds momentum to determined move in Congress. Here a helihooper delivers herbicides.



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Hazardous Waste Regulation Tightened Up by US Agency

Under new guidelines issued by Environmental Protection Agency, US exporters of hazardous waste must have prior written consent from foreign nations scheduled to receive the waste, or shipment cannot take place. The new requirement, effective November 8, is contained in final regulations issued by the agency last week as called for in the Resource Conservation & Recovery Act, the Federal hazardous waste management law. Under the regulations, exporters must notify EPA in advance of intended shipments. EPA and the State Department will coordinate to provide notification to the receiving country.

Notification will also be provided to any country through which the waste will pass in transit to the receiving country. EPA will then notify the exporter of the country's response.

"This regulation will for the first time ensure that the receiving country has consented to receive the hazardous waste," says EPA Administrator Lee M. Thomas. He says the rule will prevent international transportation of waste to countries that do not want the waste, while giving countries willing to accept the materials an opportunity to manage it safely.

The US Customs Service official at the point of departure will collect a copy of the required manifest which accompanies the shipment. This will allow EPA to work with Customs to monitor and spot-check exports.

In addition, the agency says exporters must file exception reports and submit an annual report summarizing hazardous waste exports.

EPA says exporters should notify the agency at least 80 days before shipment.

Degussa Acquires Precious Metal Firm

Degussa Corporation last week said it completed the purchase of Metz Metallurgical Corporation in South Plainfield, N.J.

Metz will be a wholly owned subsidiary of Degussa but with its own Board of Directors and officers.

Metz is a 65-year old company well established in the manufacture of precious metal products. Metz produces precious metal powders, flakes, salts and solutions for the electronic, photographic, chemical, pharmaceutical and automotive industries and metallurgical products such as brazing and electrical contact alloys. Metz also refines precious metals.

The Metz plant and support facilities are located on a 10-acre parcel in South Plainfield, N.J., and employs 210 people.

Plastics in Ocean: Pollution on the Rise

Up to 150,000 tons a year of plastics are dumped into the world's oceans by the fishing industry alone, Society of Plastics Industry says. Merchant vessels, boaters, beachgoers and refuse from sewage treatment facilities also contribute thousands of tons per year.

SPI president C.E. O'Connell told the House Merchant Marine Subcommittee on Coast Guard & Navigation that the plastics industry wants to help solve the problem of plastics pollution in the seas. "We are committed to reducing the likelihood of plastics pellets finding their way into the marine environment, increasing the level of plastics recycling and educating decision-makers and the public about the options for properly disposing of all municipal waste," he declared.

He also said the US should ratify a convention conceived in the early 1970's that provides for the prevention of pollution from ships. This so-called "Marpol" convention would prohibit the dumping of garbage, including plastics, from ships.

Nematacide Wins Approval For Testing

Unocal Chemicals Division has gained Federal permission for limited marketing of a pesticide to control nematodes, the tiny parasites that infest roots of various food crops grown throughout the world. In the US alone, crop loss from nematodes is estimated at \$4 billion per year.

According to its developers, the most attractive feature of the nematacide is its ecological compatibility. Unlike other effective nematocides in current use, the new product, code named GV-81, which is shielded by several patents, was designed to pose no risk of contamination to ground water or the plants it protects.

"It was designed for use on growing plants and to be environmentally acceptable," says Dr. Don C. Young, who is primarily responsible for the original chemistry of the product at Unocal's Fred L. Hartley Research Center in Brea, Calif.

Magnesium Projects Expected in Canada

Construction of two new magnesium plants with a combined annual capacity of 100,000 metric tons is expected to proceed in Canada, with the result that several US plants could be forced to close.

Fred Fletcher, director of the Glass Econometrica Metals & Materials Group in Bala Cynwyd, Pa., says provincial officials are offering attractive terms for the projects in an effort to attract new industry.

Plants have been proposed by Magnesium Company of Canada Ltd., majority owned by Aluminum Company of America, and by Noral Hydro As.

It is expected that the new Canadian plants would depress magnesium pricing in North America and possibly force the closing of several higher-cost plants.

Groundwater Guides Issued by US Agency

Environmental Protection Agency is issuing guidance for determining groundwater vulnerability at hazardous waste facilities regulated under the Resource Conservation & Recovery Act, the Federal hazardous waste management disposal law.

Dr. Michel Fourier, professor in the university's biological sciences department, says that the compounds seem to act by disarming microorganisms, the white blood cells that alert the rest of the immune system to bacterial or viral invasion.

Paul J. Johnston, who has been named vice-president and general manager of the Coatings Resins Department of Union Carbide, has been previously general manager in the company's Coatings Materials Division.

4 CHEMICAL MARKETING REPORTER August 18, 1988



Donald V. Borsig, who has been appointed to the position of president of SCM Industries, a division of Hanes Industries, the US arm of Hanes PLC.

PPG Is Expanding Taiwan Silica Unit

PPG Industries, Inc. will increase the capacity of its precipitated silica operation in Taiwan by more than 50 percent, bringing the plant's capacity up to 20,000 metric tons per year.

The expansion, due on stream October 1, will allow the company to meet growing demand for its line of silicas in Japan, Taiwan and Southeast Asian markets, the company says.

PPG recently launched three other significant chemical projects in the Far East—a licensing agreement to provide technology and equipment for China's first commercial silica plant, a joint venture chlorine-caustic soda manufacturing project with China Petroleum Development Corporation in Taiwan, and an agreement with Tokyo-based Nippon Oil & Fats Co. to pursue specialty chemical projects in Japan.

The silica plant is operated by PPG Industries Taiwan Ltd., a joint venture formed in 1983 by PPG and local Taiwan investors. PPG has majority interest in the operation.

Pesticides May Hurt The Immune System

According to a Canadian study, exposure to certain pesticides may weaken the immune system, resulting in increased susceptibility to infection.

A research group from the University of Quebec, Montreal presented findings at the Sixth International Congress of Pesticide Chemistry recently which indicate that eight commonly-used pesticides, among them deldrin, carbaryl and aminocarb, may damage the mammalian immune system.

In laboratory tests, the compounds were found to cause a decline of from 50 to 80 percent in the immune system responses of laboratory animals given doses 10 to 20 times higher than normal environmental levels of the pesticides.

Dr. Michel Fourier, professor in the university's biological sciences department, says that the compounds seem to act by disarming microorganisms, the white blood cells that alert the rest of the immune system to bacterial or viral invasion.

Paul J. Johnston, who has been named vice-president and general manager of the Coatings Resins Department of Union Carbide. He was previously general manager in the company's Coatings Materials Division.

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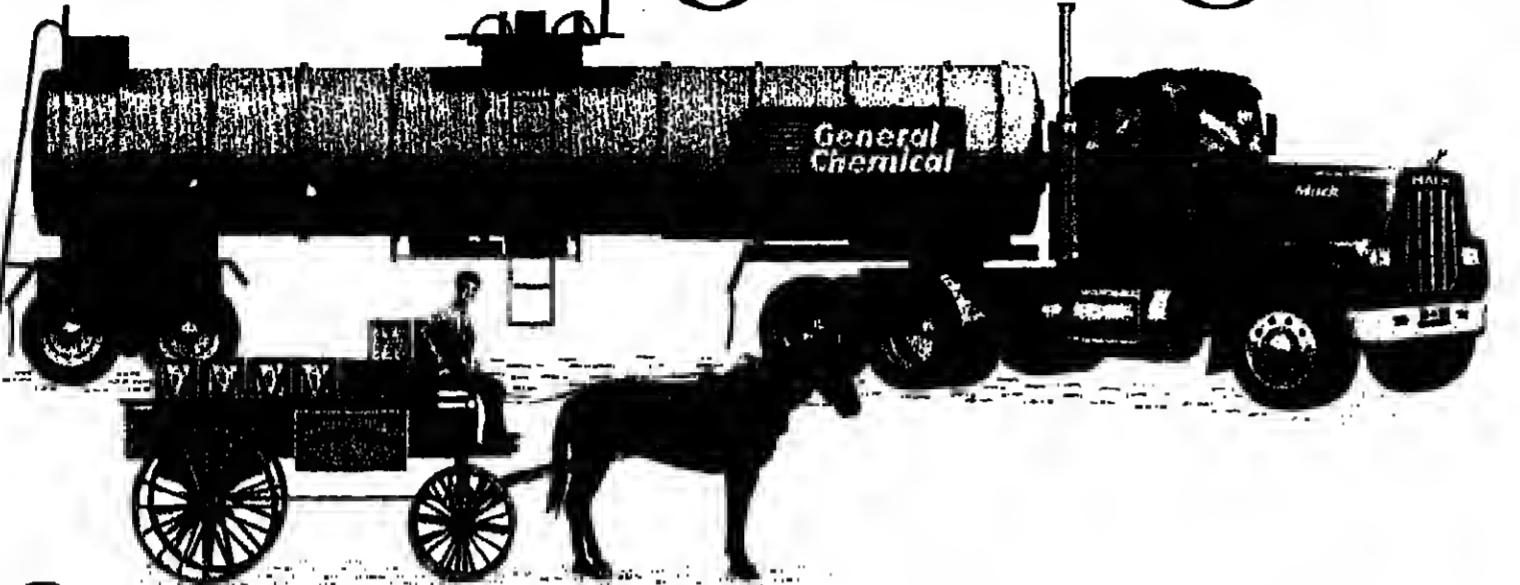
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Toner Case Accepted

International Trade Commission last week voted 6 to 0 to initiate an investigation to determine whether toner imports by Canon Japan and Canon US are in violation of US antitrust laws.

A complaint filed July 16 by Aunyx Corporation alleges that Canon has unlawfully monopolized the US market for monocomponent toners. (See CMR, 7/21/86, p. 3)

Under section 337 of the Tariff Act of 1930, ITC could initiate an embargo against the offending Canon toners within a year.

Only Canon and Aunyx manufacture a toner usable in Canon's "NP" copier line, but Canon has more than 99 percent of that market, which Aunyx estimates at \$150 million per year.

Meanwhile, Aunyx has filed a \$300 mil-

lion antitrust action against Canon in the US District Court in Boston.

Toner, which is made from resins and pigments, is the dry ink for copiers.

"The unanimous vote of the ITC should send a signal to the Japanese that the US government will not wait until another US industry is destroyed," said Aunyx president Robert Langone.

Asserting that Canon has "competed unfairly in monopolize the US monocomponent toner market," Mr. Langone said,

"we intend to use section 337 to obtain an exclusion order and the court to obtain appropriate money damages."

Bart S. Fisher, an Aunyx attorney, said Canon personnel have coerced Canon dealers into not using the Aunyx product by not delivering the new generation of Canon copier machines to dealers who have purchased Aunyx toners.

Potash Makers See No Rebound in '87

Potash producers, coming off a fertilizer year in which both North American and export shipments of product fell sharply, see little hope for a turnaround in domestic sales in the 1986-1987 fertilizer year, although exports may pick up enough to offset any further decreases in domestic demand.

Potash production by Canadian and US producers in the fertilizer year ending this past June 30 fell 12.4 percent to 8.4 million short tons, K₂O basis. North American disappearance fell 6.5 percent in the year to 8.6 million tons, K₂O basis, while exports slipped 9.5 percent in 1985-1986 to 2.8 million tons, according to figures provided by Potash & Phosphate Institute.

One bright spot has been a 12 percent decline in inventories during the year, but one producer tempts that statistic by pointing out that stocks did not begin to fall until April at the tail end of the planting season.

Producers have taken extensive downtime this summer in an attempt to further whittle down inventories. For example, the two largest Canadian producers, Potash Corporation of Saskatchewan and International Minerals & Chemical Corporation, have taken long turnarounds this summer. PCS closed all its mines from mid-June through the end of July before resuming operations on August 1. An ongoing strike at PCS's Langan, Sask. mine, however, has forced PCS to operate there at sharply reduced levels. At

IMC, a company official says large inventories have prompted the company to significantly lengthen its normal summer turnaround at Esterhazy, Sask. He did not disclose when the mine would reopen.

Even while stocks fall, domestic demand

Continued on Page 17



David A. Naedam, who has been named vice-president for marketing services and director of marketing for realms by Hercules Inc. He will assume responsibility for sales and marketing of organic realms as well as retaining a number of other marketing functions that he already performs.

ICI Buys Glidden Lines For \$560 Million in Cash

Imperial Chemical Industries, PLC reinforced its position as a leading world paint company last week by agreeing to acquire from Hanson Industries, the US arm of Hanson Trust, the North American paint, coatings, resins and "Macco" adhesives businesses of Glidden for \$580 million in cash.

The businesses were bought by Hanson earlier this year as a division of SCM Corporation. Hanson Trust says that on completion of the agreement with ICI it will have raised nearly \$810 million through the sale of SCM assets for which it paid approximately \$830 million earlier.

SCM continues as a producer of chemicals, including titanium dioxide, and paper and consumer products. The company operates two USTIO plants, a 109,000-short-ton facility at Baltimore, Md. and an 88,000-ton plant at Ashtabula, Ohio. SCM's total world capacity for the white pigment is rated at about 323,000 tons, behind leader E.I. du Pont de Nemours & Co. and British Tioxide, PLC.

ICI says the acquisition makes it the third largest producer in the US coatings and resins industry worth \$9 billion a year. In the year ended June 1986, Glidden had sales of more than \$650 million and pre-tax profits of more than \$80 million, with net assets at book value of approximately \$220 million.

In making the announcement last week,

ICI chairman-elect Denis Henderson said the acquisition would allow ICI to "accelerate dramatically" its expansion in the \$25 billion world paint market.

He says paints, specialty coatings and resins are adding to ICI's resistance to cyclical downturns in chemicals and "they have a strong track record of profitable growth."

Glidden, with headquarters in Cleveland, Ohio, operates 12 manufacturing units and has 4,500 employees in North America. The company distributes paints and related products to paint contractors through 350 company-owned outlets and its retail consumer paint is through both independent dealers and retail chains.

In the industrial coatings market, the company is a major factor in can, coil, appliance and powder coatings markets.

Through existing operations, ICI has annual paint sales in group companies and associates of more than \$1.25 billion and manufacturing plants in 26 countries.

The company says its "Dulux" paint brand has 40 percent of the retail market in the UK and over half the color paint sales in

value and has increased its retail market share volume from 25 percent to 34 percent in 10 years.

A technical innovation by the company in the retail trade has been development of an almost solid form of emulsion paint and ICI

Continued on Page 21

L'Air Liquide Commences Cash Offer for Big Three

L'Air Liquide SA, the French industrial gas firm, commenced a \$1.05 billion tender offer for all 36.3 million outstanding shares of Big Three Industries, following an acquisition agreement between the two companies last Tuesday (August 12).

The \$28-per-share offer is being carried out by AAL Acquisition Corporation, a unit of L'Air Liquide.

William Boren, vice-chairman of Houston-based Big Three, said "there will be no consolidation" of Big Three's industrial gas operations and those of Liquid Air Corporation, L'Air Liquide's US subsidiary.

According to Mr. Boren, the French firm has expressed its intention to operate Big Three as a separate unit under the same name and personnel. Mr. Boren says Big Three and Liquid Air will continue to compete against each other in the California, Texas, Louisiana and Florida markets.

According to Mr. Boren, Big Three is the fifth-largest industrial gas concern in the US, behind fourth-ranked Liquid Air.

Although Big Three was not on the selling block, there had been speculation over the past few years that the Smith family, which owns about 6 percent of Big Three's stock, was interested in selling.

Harry K. Smith, chairman of Big Three,

and his brother, Albert K. Smith, co-chairman, decided it was time to sell their stock, and L'Air Liquide "came along and made what was considered a very good offer," Mr. Boren explains. The Smith brothers will both retain their posts at Big Three.

Mr. Boren says other firms had expressed

interest

in acquiring Big Three, but "no firm

offer

was

made

by

anybody

else

besides

L'Air Liquide.

It was reported that Union Carbide Corporation had also been a bidder, but Mr. Boren says Carbide never expressed interest in acquiring Big Three.

Big Three's oil field services business has been sagging, along with the market in general, but the company's industrial gas operations are considered strong, especially on the Gulf Coast, where the firm's gas pipelines give it an advantage over competitors.

Big Three, which reported a 10 percent drop in profits in the second quarter, said results in the first half improved slightly to \$24.4 million, or 67 cents a share, as compared with \$23.9 million, or 82 cents a share, in the comparable period last year.

L'Air Liquide said last week that its offer is subject to a minimum of 24.8 million shares of Big Three being tendered and not withdrawn prior to the September 11 expiration date. Big Three's board approved the offer and is recommending that Big Three stockholders accept it.

Ocean incineration — burning hazardous wastes in incinerators mounted on ocean-going vessels — could be an attractive, though not essential, interim option for managing certain liquid wastes, according to a report released Friday by the Congressional Office of Technology Assessment.

Several waste treatment methods, such as ocean incineration, will be needed to bridge the gap between hazardous waste disposal practices of the past which are being abandoned, such as landfilling, and preferred practices of the future, such as waste reduction, whose capacity is only now developing, according to OTA.

The report, prepared at the request of the Senate Commerce Committee and several House committees, notes that time will be required to implement these preferred practices and they will not be applicable to all wastes.

Last May, the Federal government re-

sumed Chemical Waste Management Inc.'s request to burn toxic waste aboard an incinerator ship off the Atlantic Coast.

Lawrence Jensen, Environmental Protection Agency's assistant administrator for water, said the agency backed off its ocean-incineration support for the experimental technology partly because of public concerns raised by its tentative approval last December of a test mission 155 miles off the coast of Ocean City, Md.

Mr. Jensen said EPA would not license any research burns for at least one year while the agency develops comprehensive ocean incineration regulations.

OTA says ocean incineration is likely to have only a limited effect on incentives to shift preferred management practices, in part because these practices are expected to be applied to nonincinerable wastes for the near future.

It says to ensure that ocean incineration is supplemented by better technologies as they de-

Continued on Page 25

Polymer Institute Is Set To Market R&D to Industry

The University of Detroit will operate its first corporate subsidiary, Polymer Technologies, Inc. (PTI), to do research in polymers, some of it under contract to industry.

Dr. Nicholas J. DeGrazia will act as president and chief executive officer of PTI, while continuing to serve in his present capacity as the university's vice-president for finance and its treasurer. Creation of the company will be completed by fall with PTI becoming a wholly owned subsidiary of the university.

Marketing the company to new clients and expanding its research capabilities will be among Dr. DeGrazia's responsibilities as president of PTI.

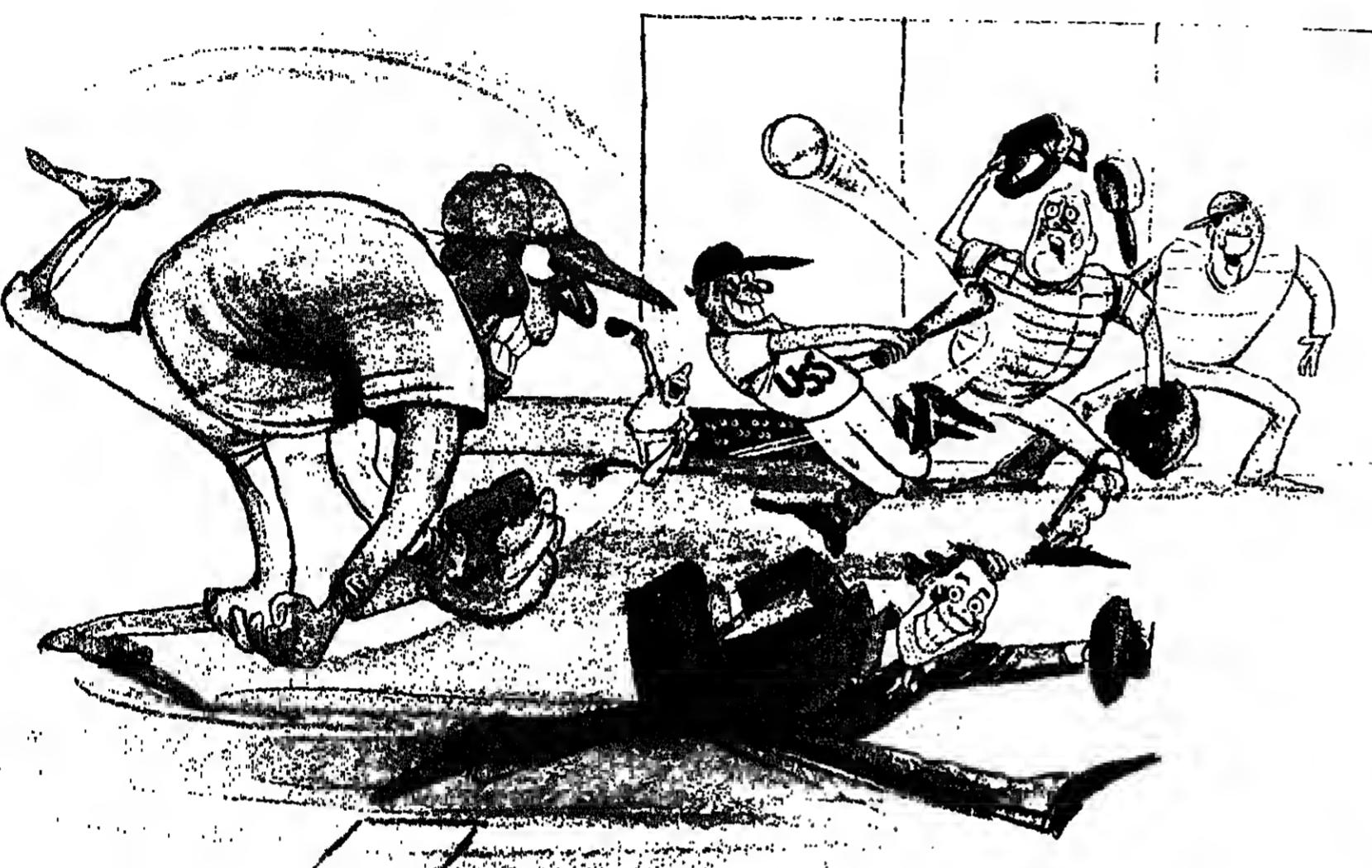
"What is unique about our marketing position," says Dr. DeGrazia, "is we have been in somewhat of a reactive mode for the last five years. Kurt Frisch, who is extremely well known in the scientific and industrial communities, has brought a lot of customers through the door and many of these companies have requested further research activities."

One area that PTI will continue to pursue is humanitarian research for the health field.

It is expected that in the near future PTI will assist the government of India in the

Continued on Page 16

Many people depend on your company and your products. But who do you depend on?



de-pend (di-pend') *Intr. v.i. 1. To rely, as for support, help, etc. 2. To be assured; to place trust.*

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News Capsules

Denka Starts Expansion

Denka Chemical Corporation has started work on a 20-million-pound expansion of its Houston, Tex., maleic anhydride plant. The project is scheduled for completion in the first quarter of next year and will lift Denka's maleic anhydride capacity to 65 million pounds annually. The increased capacity is necessary to meet projected market growth, anticipated to be 4 to 6 percent per year range, Denka says.

Du Pont Cuts Costs

E.I. du Pont de Nemours & Co. says it has cut production costs by 35 percent at one of its major plants through the use of statistical techniques by shop floor workers as a substitute for the traditional inspection method of quality control. Du Pont says effective use of statistical techniques can increase product yield to nearly 100 percent.

Carbide Additive

Union Carbide Corporation says it has developed "Ucaril" FR additives for use in formulating functional plastic building materials with improved fire safety properties. Initial commercialization of products formulated with the additives will be in electrical wire and cable insulation and jacketing, and in electrical conduit for use in shipboard, military, power plant, subsea and high-rise building applications.

Chevron Opposes Measure

Chevron Corporation has come out against Proposition 65, which will be on the ballot in California this November. The company says the measure would make it "extremely difficult" for farms or businesses to operate with the routine use of pesticides, gasoline, diesel fuel and other chemicals considered safe for household use. Chevron says it is urging California voters to read the proposition carefully before voting.

O-C Specialties Unit Sold

Owens-Corning Fiberglas Corporation has reached agreement for the sale of its CHR Industries subsidiary to Bundy Corporation. CHR, a specialty pressure-sensitive tapes, silicone rubber sheet and "Teflon" coated fabrics firm based in New Haven, Conn., "will add approximately \$25 million in sales to Bundy's \$70 million performance plastics group," says Bundy president William E. Eckhardt.

Pantasota Deal Complete

Pantasota, Inc. has completed the previously-announced sale of its Hickory, N.C., polyvinyl chloride film facility to Hickory Vinyl Corporation. The Hickory facility, which had sales of approximately \$7 million last year, will continue to supply a portion of Pantasota's film requirements for the company's Butler, N.J., printing/laminating division. Pantasota had 1985 sales of about \$133 million.

Vinyl Venture Set

Imperial Chemical Industries PLC and EniChem are completing plans for their vinyl joint venture, to be known as European Vinyls Corporation, to begin trading on October 1, 1986. EVC International SA/NV, which will coordinate the venture's business worldwide, will be established in Brussels in order to prepare for start-up of the operating companies.

Nitrogen Plant Starts

Air Products & Chemicals Inc. has begun supplying nitrogen to Rohr Industries' Riverside, Calif., plant from a new vacuum swing adsorption (VSA) facility. The nitrogen is used as an inert pressurizing atmosphere for curing composite aircraft and spacecraft parts in autoclaves.



Celanese Corp. Sets Up Unit For Specialties

Celanese Corporation last week said it has formed a new unit, Celanese Advanced Technology Company, and appointed James J. Bigham as its president.

"This move," says CEO John D. Marsteller, "is an important step in our growth and diversification strategy." He adds that it will "further strengthen the tie between our research and development activities and our growth businesses, which will play an increasingly important role in our future."

With headquarters in Chatham, N.J., the technology group employs 650 persons in administrative, research and pilot production facilities at Charlotte, N.C., Corpus Christi, Tex., and Summit, N.J., with a production unit at Rock Hill, S.C.

The focus will primarily be on advanced materials such as "Vectra" thermoplastic and a polybenzimidazole specialty fiber of which the claimed properties are high temperature and chemical resistance.

Mr. Bigham is a vice-president of Celanese Corporation and formerly president of Celanese International Company.

Pickens Recommends Hemispheric Market

The US should seek energy security by encouraging the formation of a Western Hemisphere Energy Alliance or an energy common market, two panelists proposed in a symposium on energy mergers and energy policy at the national meeting of the American Bar Association in New York last week.

T. Boone Pickens, chairman of Mesa Petroleum Corporation, and the leading advocates of oil industry restructuring, whether by forced merger or management policy, suggested that an Energy Alliance linking the US with Canada, Venezuela, Colombia, Ecuador and other oil and gas-producing nations would meet the national security objective once believed attainable through US self-sufficiency.

Theodore Garrison, assistant US secretary of energy, noted that the producing and consuming nations in the Western Hemisphere are already verging on a common market for energy. By the end of the decade, Mr. Garrison noted, there will be a free flow of oil and gas between Canada and the US, as the last of Canadian controls will have been phased out.

Mr. Garrison's remarks, like those of Mr. Pickens and Charles Trabandt, commissioner for the Federal Energy Regulatory Commission, laid great emphasis on the detrimental effects of regulation and the

need to permit the maximum play of free market forces in the production and allocation of energy resources.

The panelists also agreed that the benefits flowing from mega-mergers and restructuring in the oil and gas industry far exceeded the claimed ill effects. The fact that the oil production of most major US oil companies significantly exceeds their discovery of new reserves creates a need for restructuring and also supports the idea of a Western Hemisphere energy common market, the speakers indicated.

The increased Federal controls over mergers being sought by some of the larger oil companies that have become targets of Mesa and other small companies were rejected by the panelists. Mr. Garrison noted that it took five years to dismantle the crippling price controls and allocation of oil implemented in the mid-1970's.

"It is in the politically powerful losers who do the lobbying, and it is hard to realist their demands," he said.

Mr. Pickens had similarly bard words for Federal regulation, but there was implicit disagreement about Mr. Pickens' plan to form a massive organization of stockholders' to press for shareholder rights. A panelist said that a lobbying organization of 47 million stockholders would not necessarily have

Continued on Page 29

Methane From Land Fill

The "Gemini-5" system, a new proprietary gas separation technology developed by Air Products & Chemicals, Inc., has been incorporated in a recently completed landfill gas recovery facility in Greensboro, N.C.

This system, which includes equipment supply and technical services, is a pressure-swing adsorption (PSA) process that separates carbon dioxide and methane, producing a gaseous stream of 99 percent methane at high recovery levels. The system operates at considerably lower pressures than competing technologies, and has been automated for semi-attended operation.

In the first commercial application of the system, it will purify gas recovered by GSF Energy Inc.'s new facility at the City of Greensboro's White Street landfill.

The plant has a capacity to process up to 3 million standard cubic feet per day of the raw gas generated by the natural decay of landfill material. GSF Energy Inc., an Air Products subsidiary, will operate the recovery facility and sell the high-purity methane as pipeline gas to Piedmont Natural Gas Company under a multi-year contract.

In the gas processing facility at Greensboro, raw feed gas passes through a proprietary pretreatment system to remove trace impurities. The pretreated gas then passes through a bed of adsorbent to remove carbon dioxide, producing a high-purity methane product stream. The carbon dioxide is removed from the adsorbent by lowering the pressure and can also be collected at high recovery and purity as a byproduct.

Household Cleanser Sales To Hit \$9.9 Billion This Year

Department Plans to Expand Fuel Ethanol

Department of Agriculture last week expanded its temporary program to encourage the use of grain in the production of fuel ethanol by including dry-milling and wet-milling grain products and grain-derived syrups as eligible feedstocks.

The goal of the program, which ends September 30, is to maintain the demand for grain by bridging the gap between Spring grain prices and lower prices expected this fall as a result of reduced price support levels mandated by the new farm program.

The decision followed a comment period and an informal hearing held to determine whether the temporary program to encourage the use of grain for fuel ethanol should include non-grain-based ethanol producers, who use a variety of feedstocks.

Daniel G. Amstutz, under secretary of agriculture, says it was determined that while a reduction of grain-based ethanol feedstocks costs through September would preserve a market for grain, a similar situation does not exist with respect to non-grain ethanol feedstocks.

US sales of household cleaning products will show moderate but steady growth through 1986 and 1987 with most activity occurring in the large soaps and detergent sector, according to a new study by Charles H. Kline, Fairfield, N.J., market analyst.

The industry will reach \$9.9 billion in 1988, up 6.8 percent from \$9.3 billion in 1985.

This growth will be influenced by a number of factors as marketers attempt to gain share in this highly competitive industry. Kline says these include the following: industry consolidation through acquisitions and divestitures, increasing efforts to extend successful brands, heightened consumer demand for convenience, and changing demographics and buying patterns among consumers of household cleansing products.

Several acquisitions took effect in 1985 which dramatically increased sales of five companies and will alter the competitive structure of several product categories in 1986 and beyond.

Greyhound increased its sales of household cleansing products by over 100 percent with the acquisition of Purex's Consumer Products Division which it has merged with Armor-Dial to form the Dial Corporation.

The acquisition product categories as well as a large, growing private-label business.

Similarly, the acquisition of Texizine increased Dow Chemical's sales of household cleansing products by 871 per cent, strengthened its position in the bathroom cleaner category and expanded its participation in the growing all-purpose and glass cleaner segments.

Other significant acquisitions include Reckitt & Colman's purchase of Airwick, Sure Lee's purchase of selected assets of Nicholas Kiwi and Block Drug's acquisition of the X-14 brand of mildew remover from White Laboratories.

Marketers are more likely to extend their strongest brands than to introduce new ones, a strategy that stimulates sales and rapid consumer acceptance while maximizing the effectiveness of promotional expenditures, according to the study. Economics Laboratories has built its "Scrub Free" line of cleaners using this strategy.

This tactic has also worked well for Church & Dwight ("Arm & Hammer"), Kline says.

However, it represents a new approach for the largest marketer in this industry, Procter & Gamble. The company, once unwilling to exploit such popular brands as "Tide," introduced a flurry of extensions in 1985 and 1986 and appears likely to continue. For example, at least three distinct products bear the "Tide" name in 1986 and several new liquid detergents bearing the "Cheer" and "Bold" names have been announced.

Increasing demand for convenient house-

Continued on Page 17

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OILS, FATS & WAXES

Palm Oil Market Depreciates; Production Increases Again

Palm oil prices have fallen considerably over the past couple of weeks due to oversupply, weak export movement, and low prices on competing oils. A drop-off in orders from India in recent weeks has been especially harmful to the world palm oil market, sources say.

The oversupply situation facing the palm oil industry throughout the year is continuing. Malaysian Government palm oil production estimates put the July figure at 382,000 tons; August estimates stand at 470,000 tons, and September's production is forecast at 580,000 to 575,000 tons. These estimates trace the continuing trend of monthly Malaysian production increases of about 20 percent.

India's recent absence from world palm oil trade has been sorely felt in the market, sources say. India, usually Malaysia's largest customer, has bought less oil in recent weeks than had been expected. It is thought that with world stocks as high as they are, the Indians feel safe in waiting for the price to drop further before completing their buying for the year. It is hoped that when they do come back into the market, they will help bring prices back up.

INDONESIA SELLING LESS

On the other side of the coin, Indonesia has been selling considerably less palm oil than had been anticipated. Bainbridge estimates by one industry analyst that Indonesia is having about 500,000 more tons to sell on the world market through December. If and when these quantities go into the market, palm oil prices can be expected to fall further, sources say.

Low pricing on competing oils has also helped to dampen the palm oil market. In Europe, rapeseed and fish oil have been providing stiff competition for palm oil, while the rise in coconut oil prices on both the spot and forward markets has been a problem for palm oil worldwide.

US use and trade in palm oil has been continuing steady, industry sources say. US imports from October through June of this year are 217,028 metric tons (MT), compared to the previous year's figure of 127,152 MT. US stocks at the beginning of July stood at 35,754 tons, down from the June 1 figure of 40,993 tons.

The outlook for the future, though mixed, seems to indicate a continuation of depressed prices. Although India's buying is expected to increase soon, that must be weighed against the possibility of large amounts of Indonesian palm oil entering the market.

Even if this were not to materialize, it is considered certain that, barring extreme weather conditions, Malaysia's production will continue to increase over the next year.

or more. Most industry observers see no factors that could contribute to a significant firming trend in the near future for the vegetable oil market in general, and for palm oil in particular.

Malaysia announced early last week that it intended to lower the export duty on crude palm oil for the month of August. The duty on refined oil will not be lowered at this time. It is unclear if the reduced tax will last beyond

PRICES TRENDLINES

WEEK ENDING AUGUST 15, 1986

CHANGES/UP

Cottonseed, 41% bulk, Memphis, \$16 per ton
Soybean, 44% bulk, Decatur, \$7 per ton

CHANGES/DOWN

Coconut oil, NY, 14c, per lb.
Corn oil, Midwest, 1c, per lb.
Cottonseed oil, Valley, 1c, per lb.
Lard, loose, bulk tanks, Chicago divd., 1c, per lb.
Palm Oil, 14c, per lb.
Peanut, 80% bulk, SE, \$8 per ton
Soybean oil, Decatur, 1c, per lb.

OILS, FATS INDEX

The Oils, Fats & Waxes Index reflects the prices of 11 representative materials in this sector and the quantity of each produced in 1985.

Aug. 16, 1986	79.60
Aug. 8, 1986	79.16
July 16, 1986	85.55
Aug. 15, 1985	85.82

Chemical Prices Start on Page 32

August. The Malaysian government is entering a joint venture with a company or companies for the refining of crude palm oil, and this is considered part of their reason for encouraging the release onto the market of large amounts of crude palm, a source says.

VEGETABLE OILS

COCONUT OIL — Pricing on coconut oil is sagging due to a lack of demand and abundant stocks. The price is thought by some to be near the lowest levels that it will reach.

Many traders were surprised last week by the low prices reached in the forward market. Although the spot market had been expected to fall, unusually low pricing was seen on positions as far ahead as 6 to 8 months, industry sources say.

Now, traders are expecting the forward market to fall to spot levels, and they believe that the spot price will not fall much further.

Malaysia's recent reduction in crude palm oil export levies is being closely watched by people in the coconut oil industry, so are reports that Malaysia is considering reducing the 10 percent export tax on palm kernel oil, a major competitor of coconut oil. More of this kind can be expected to depress coconut oil prices, sources say.

COTTONSEED OIL — The market for this oil has been very slow as buyers are waiting for the crop currently being harvested to bring prices down further than they have been.

Buying has been very weak lately, with the spot market seeing almost no activity, as the forward buying taking place at very low prices. Most of the trading being done currently is for November through March positions, selling for about 14c. per pound, industry sources say.

Helping to depress the market is the early start-up of oil mills in the Mississippi delta.

The Texas crop, currently being harvested in coastal areas, is said to be lower in yield and quality than last year's crop. This harvesting, which is expected to go on through November, is expected to fuel the early start-up of several other mills. No significant upturn in demand is expected until near the end of the year, when it is hoped that prices and the

Continued on Page 16

Chemical Finance

Asarco Sells Additional 450,000 Shares

Asarco Incorporated, New York, has closed the sale of an additional 450,000 shares of \$2.25 depositary convertible exchangeable preferred stock and an additional 375,000 common stock purchase warrants pursuant to an option granted to First Boston Corporation to buy additional shares and warrants to cover over-allotments.

Avery Signs Final Pact For Uniroyal Chemical

Avery Incorporated has signed a final agreement for the previously announced acquisition of Uniroyal Inc.'s Uniroyal Chemical Company for approximately \$720 million in cash. Trisangle Industries, Inc., a major shareholder of Avery, expects to make an equity investment of \$75 million in Avery as part of the financing. Avery Inc. is not connected with Avery International, the world's largest self-adhesive label manufacturer.

China, Morocco Boosting Exports of Barytes

Exports of barytes from China and Morocco are growing fast, while exports from once-important source countries — Chile and Peru for example — are continuing to fall, according to Roskill Information Services Ltd., London-based market research organization. China is now the world's largest producer, Roskill stated. Demand for barytes has declined with the reduction in oil drilling activity, Roskill noted, with scant chances for re-attaining earlier highs until the 1990's.

Millipore Acquires West Coast Software Maker

Millipore Corporation, a leader in the field of chemical separation and purification, has acquired Dynamic Solutions Corporation, a Ventura, Calif. based developer of software for analytical instrument data systems used by laboratories.

Pharmacia Boosts Net Income 16 Percent

Pharmacia AB, Uppsala, Sweden, raised its income after net financial items to \$426 million in the first six months of 1986 from \$368.8 million a year ago, as sales increased to \$1.768 billion from \$1.703 billion.

Union Carbide Hikes Second Quarter Net Income

Union Carbide Corporation has revised upward its second-quarter net income to \$388 million, reflecting a \$333 million extraordinary gain, principally from divesting its battery products business. Income a year ago totaled \$101 million.

Zemex Files 600,000 Shares of Common Stock

Zemex Corporation, New York, a diversified natural resource company mining and processing feldspar, kaolin, industrial sand, silica and tin ore, and a manufacturer of metal powders, has filed a registration statement with SEC for a proposed public offering of 800,000 shares of common stock through Tucker, Anthony & R.L. Day Inc.

Grace Redemeing 12% Percent Notes due 1990

W.R. Grace & Co.'s board of directors has approved the redemption of Grace's 12% percent notes due 1990, on September 15, at a price equal to their principal amount plus accrued interest. The notes will be refinanced with short-term borrowings at lower interest rates.

Prudential-Bache Lowers Betz Income Projection

Prudential-Bache Securities has lowered its earnings projections for Betz Laboratories, Inc., from \$2.48 per share this year to \$2.40 and from \$2.88 in 1986 to \$2.80, reflecting a more pessimistic outlook for industrial production in the second half. Stuart M. Puvirant, Prudential-Bache's chemical analyst, recommends that the stock be held with the objective of selling in the mid-40's. It was recently quoted at 36%.

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Asarco Incorporated, New York, has closed the sale of an additional 450,000 shares of \$2.25 depositary convertible exchangeable preferred stock and an additional 375,000 common stock purchase warrants pursuant to an option granted to First Boston Corporation to buy additional shares and warrants to cover over-allotments.

Allied-Signal Acquiring Endevco Division

Allied-Signal Inc. has signed a definitive agreement to acquire the Endevco Division of Becton Dickinson & Co. for an undisclosed price. Endevco, headquartered in San Juan Capistrano, Calif., produces sensors and transducers for both government and commercial use.

Amoco to Issue \$250 Million in Notes

Amoco Company, a wholly owned subsidiary of Amoco Corporation, Chicago, will issue an aggregate principal amount of \$250 million in notes to be sold by Morgan Stanley & Co. and priced to yield 7.986 percent. Proceeds will be used to repay outstanding debt and for other corporate purposes. The notes, guaranteed by the parent company, are not redeemable before August 15, 1993.

Oppenheimer Recommends Ausimont Compo, Chemed

Oppenheimer Inc.'s specialty chemical analyst, Charles J. Rose, is recommending purchase of the shares of Ausimont Compo Corporation, a specialty chemical company with a projected earnings growth rate of 25 percent per year. Ausimont Compo is the only foreign company on Mr. Rose's recommended list. Domestically, he is recommending Safety-Kleen Corporation and Chemed Corporation and telling his clients to avoid Nalco Chemical Company and Lubrizol Corporation.

Morgan Olmstead Puts Pfizer on Recommended List

Morgan Olmstead Kennedy & Gardner, Los Angeles based investment concern, has moved up its rating on Pfizer Inc. from "hold/switch" to "buy," citing an improvement in near-term prospects and a continued strong long-term outlook. The company's earnings are projected at \$3.95 per share this year, and \$4.50 in 1987, up against \$3.44 last year.

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sure from the nylon industry.

Contract terms permit the elimination of 10. per gallon of the TVA each quarter. This quarter, Phillips did not raise its price, but Texaco and other producers narrowed the industry's pricing spread by moving up 1c. per gallon.

DYES — Food & Drug Administration says it is permanently listing Red 19 and Orange 17 as safe for use in externally applied drugs and cosmetics. The decision is based on studies indicating that the materials pose an insignificant cancer risk to consumers.

METHYLSTYRENE — American Hoechst Corporation says it is in the process of starting up its 35-million-pound-per-year para-methylstyrene (PMS) plant in Baton Rouge, La. In April, the company said it intended to have the plant operating by mid-year.

The facility, a joint venture with Mobil Chemical Company, was shut last year, and Mobil decided to leave the business this year. "Mobil did a very good job of creating a market, and American Hoechst will continue to supply it," says a Hoechst spokesman. It is said that the primary markets for PMS are the adhesives and coatings industries. Mobil has been marketing material from inventory this year.

MDI — Mobay Chemical Corporation, Rubicon Chemicals, Inc. and Dow Chemical USA say they are raising diphenylmethane di-isocyanate pricing by 4c. per pound, effective September 1.

The change will involve the removal of a 4c.-per-pound TVA granted by producers last quarter as a result of competitive pressure within the industry following an 8c.-per-pound industrywide price increase on April 1. BASF Wyandotte Corporation, the other domestic producer, says it is studying the situation.

Producers say the market is tight, but acknowledge that it was tight when the 4c. per pound TVA was granted as well. "We felt that our customer base had accepted" the full extent of the 8c. per pound increase ... (and were) confused by the TVA" which was initially granted by Dow, one producer comments.

Dow says that there was "less than total broad-based support" for the 8c. per pound increase at the time the TVA was granted, and that "it appeared that we were not going to get all of the 8c. in the industry." The TVA "served to do a lot to stabilize the increase," he says.

TOLUENE — Spot toluene is quoted between 83c. and 85c. per gallon, 8c. per gallon higher than the previous week. Much of the movement is attributed by industry sources to this month's surging gasoline values.

An industry source says that no-load premium and middle-grade, unleaded gasoline have been selling well at the pump in recent months, and that these trends bode well for continued strong octane enhancer demand.

Another source says that lower prices at the pump this year should have a continuing effect on overall gasoline consumption as the incentive to commute via car pool decreases, and larger-sized cars regain some popularity.

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OILS, FATS & WAXES

Continued from Page 10

Consumer's stocks will be low enough to draw buyers back into the market.

SUNFLOWERSEED OIL — This oil is quoted at 15 1/2 and 17 1/4 c. per pound, crude, f.o.b. Minneapolis. Trading has been extremely slow both in terms of export movement and domestic selling, sources say.

Export demand is described as very poor, due primarily to a lag in orders from Mexico, which has been a good buyer this year up to a month or so ago, industry sources say. Argentina's sunflowerseed oil is said to be selling at a \$40 per ton discount to the US product, making it difficult for US producers to compete on the world market.

Latest figures on domestic supplies show US stocks at the beginning of July at 24,011 tons. The figure for the beginning of June is 21,934 tons, according to Department of Commerce figures.

Domestic trading is slow, but it is hoped

that benthic customers who have been waiting for the market to fall further will need to re-enter the market soon to keep their stocks up. Also, US producers are waiting for the usually strong buying habits of the Mexicans to return as their supplies begin to fall as well.

FATS & GREASES

TALLOW — This market has been rather low, suffering from competition from palm stearine and coconut oil. Another factor in lower prices is the lack of any "worthwhile export trade," according to an industry source. The same factors are said to be keeping white grease down.

Exports of tallow for the first half of this year far exceed those of last year. Mexico, for instance, the largest importer of US edible tallow, increased its imports 120 percent in the period January through June 1986 over the same period a year ago. Trinidad's imports are up 327 percent, and Jamaica's are up 250 percent.

While the export demand has been described as poor, one industry analyst sees a large amount of nearby demand due to foreign countries trying to use the Commodities Credit Corporation credits before they expire, he says. The source sees forward buying abroad as slow.

The grease market is said to be benefiting from the drought in the Southeast. Oils used that are generally used in chicken feed have not been faring well; therefore, chicken farmers have been adding more grease to their chickens' feed to help "fatten them up," according to an industry source.

Polymer Institute

Continued from Page 7

development of an artificial foot and the development of new processing techniques to allow its mass production.

The corporation also anticipates increasing its work for automotive manufacturers and suppliers who associate Dr. Frisch with the search for sturdy, lightweight plastic materials for use in cars and trucks. He developed the comfortable, durable and low-cost substitute for foam rubber that has been used for the past 25 years in car seats, armrests and dashboards. The polyurethane bumpers, fenders and side panels in use today also are an outgrowth of Dr. Frisch's work and that of his associates.

Household Cleaners Sales

Continued from Page 9

bold cleansing products will continue to encourage both products and packaging innovations. Several such innovations were introduced in 1985 and early 1986. Among the most revolutionary are Procter & Gamble's "Tide Multi-Action Sheets," disposable foam sheets containing premeasured amounts of laundry detergents, all-fabric bleach and fabric softener.

Others include "Act" (Clorox), a dissolvable capsule containing liquid laundry detergent. The "Bloody Duck," a 1988 introduction from Sara Lee (Kiwi) is a thick, liquid toilet bowl cleaner contained in a bottle with a spout shaped like a duck's bill. This allows the user to apply the cleaner more directly and more neatly.

The demand for convenience products will continue to fuel the growth of multipurpose and concentrated products through 1986 and beyond. Laundry detergents will continue to be combined not only with fabric softeners but bleaches and enzymes as well. Similarly, all-purpose cleaners which both disinfect and clean such as "Tackle" ("Clorox") are likely to be popular.

Liquids also represent fast growing or emerging segments in several categories including laundry detergents and, more recently, automatic dishwashing detergents. Liquids account for over 30 percent of laundry detergent sales in 1986, up from 25 percent throughout 1985.

In 1986 still the leaders in the automatic dishwashing detergent category had introduced or announced intentions to introduce liquid versions of their products. These include "Brightside" and "Palmolive Automatic" (Colgate-Palmolive), "Electrasol Liquid" (Economics Laboratory) and All-Lever Brothers.

In 1985 and early 1986, marketers of household cleansing products increasingly responded to changes in their consumer base through new approaches in promotion and distribution.

For example, in the laundry detergent category, a new product was positioned as a cleaner for baby clothes. (Mennen's "Baby Magic"), while marketers of starches and sizings developed light starches geared for younger, working consumers. In the future, marketers are likely to position products towards single persons, older persons,

teenagers and men, all of whom account for a growing proportion of shopping dollars.

Marketers are likely to adapt promotion and to seek new distribution outlets in response to shifting consumer profiles and buying patterns. Promotions such as instant redeemable coupons, sampling, and mail order coupons will become more important as consumers have less time to clip coupons or watch television.

Finally, manufacturers will increasingly seek such alternatives to traditional retail outlets as mass merchandisers, warehouse stores or buying clubs as these stores grow in popularity among value-conscious consumers.

Although overall sales growth for household cleansing products will continue to be moderate, marketers who anticipate and take advantage of certain trends are likely to outperform their competitors.

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ALIPHATICS

and he says that domestic demand has also improved.

These welcome trends have combined to shore up the price of acetone, he concludes, and have kept it firmer than phenol during 1986.

The maker says that the US industry faced net imports through June of 1985 of 20 million pounds. The same period in 1986 found the industry with net exports of 3 million pounds. The trend, which he attributes to the weakening of the dollar, "might be better by the end of the year."

As for domestic demand, he predicts that 1986 will finish about 80 million pounds above last year's total, which translates to growth of approximately 4 percent. That compares to a negative 3 percent growth rate for the full year 1985, the maker says.

A competitor shares his view of the export market. "Export demand has been

quite strong," he relates, and he also says that imports appear to be abating somewhat.

He attributes some significance to the weakening dollar, but he also cites an additional factor that has improved the health of the acetone industry. He says that reduced phenol output has reduced production of coproduct acetone.

Demand growth is likely to arise primarily from methyl methacrylate and bisphenol-A end markets, according to a maker. He describes bisphenol-A as a "mixed blessing," however. The material is a raw material for polycarbonate resin, which is one of the fastest growing of all plastics. But bisphenol-A production consumes phenol and acetone in a 2:1 ratio. The result is the production of more phenol than would be necessary to generate the necessary amount of acetone, and resultant oversupply of acetone coproduct.

The maker also says that short term acetone demand for coatings will be fairly strong, but will weaken in the longer term as a result of the trend toward water-borne formulations.

Pricing for largest customers is said to be in the vicinity of 15-1/2 cents to 16-1/2 cents per pound, with average customers (buying in tank car quantities) paying 21 cents to 22 cents per pound.

One producer said that as of last week its list price East of the Rockies is 22 cents per pound, with a 1 cent higher list West of the Rockies.

Plastics Margins

Continued from Page 5

been "reasonably happy" with LDPE margins the past three years. He says LDPE operating rates have risen to the point where margins have grown enough to attract new capital.

High density polyethylene has seen strong growth, but Mr. Scott notes that pricing has been weak. This is because "surplus LLDPE has been dumped into the injection molding market." He says poor pricing will continue in the HDPE market until LLDPE prices rise enough to "attract LLDPE capacity away from HDPE markets." Yet, Mr. Scott also notes that demand continues to grow for HDPE, but no new plants are in the works, so supply-demand should improve.

Another speaker at the meeting, Martin Fernandi, vice-president, marketing at Ampacet Corporation, noted that HDPE growth was up 4.5 percent through the first five months of May, but in the same five months of 1985, HDPE grew at 6.4 percent over the previous period in 1984.

He partly attributed the slower growth to a 12 percent drop in HDPE pipe sales through May, which he said was a reflection of the soft housing, agricultural, and oil markets. On the up side, though, Mr. Fernandi said HDPE use in film applications was 10.6 percent ahead of year earlier levels, while blow molding applications, its largest end-use, ran 5.8 percent ahead of last year. Ampacet is a major supplier of additives and colorants to the plastics industry.

Turning to polypropylene, Mr. Scott says the business is benefitting from a combination of "rapid growth" and falling feedstock costs. He says demand growth is outpacing new capacity, while raw material propylene prices have fallen 40 percent since last winter.

The US is in a good position to benefit from these factors, he noted, since producers here are the lowest cost propylene supplier in the world. Mr. Fernandi highlighted this advantage by noting that while domestic sales of PP were 3.8 percent higher in the first five months of 1986 compared to 1985, exports surged almost 30 percent above year earlier levels.

Mr. Scott also said that polystyrene producers were having their first good year since 1979, due not only to lower cost feedstock, but also to extensive consolidation and restructuring in the industry. However, Mr. Scott also pointed out that PS "suffers from vertical integration," explaining that PS is often used as an outlet for excess supplies of styrene and ethylbenzene.

In general, Mr. Scott said he was "fairly optimistic" about plastics through the decade. He said demand is growing fairly well, and most of the new capacity due on line in the decade is already in place. Furthermore, polymers are outgrowing more traditional rivals, such as metal and glass, and new market opportunities are coming along.

FIFRA Finally Gets

Continued from Page 3

extinguished within two years prior to the expiration of the extended patent.

If the extension of the patent is less than two years, testing could begin within one year prior to the patent expiration. It would not be considered a patent infringement to conduct tests on a pesticide not receiving a patent term extension two years prior to the expiration of the patent.

On the related issue of data compensation — how much money a company must pay to make use of another company's research data on a pesticide — the panel approved a proposal by Sen. Richard Lugar (R-Ind.), which provides for nonbinding arbitration and judicial review in a US court of appeals of the arbitration decision.

PPA had argued that because arbitration decisions could cause small producers to pay huge sums to make use of a patent-holder's health and safety data, the small producers should have an opportunity to begin their own time-consuming testing at an early date. The early start would allow the companies to apply for a pesticide registration as soon as the original maker's patent on the pesticide expired.

In other actions, the committee approved amendments by Sen. Paula Hawkins (R-Fla.), to require EPA to issue groundwater residue guidance levels to protect against pesticide contamination, and by Sen. Helms to prohibit states, with limited exceptions, from setting tolerances that are more stringent than the Federal limits.

The Hawkins groundwater amendment is supported by all groups involved in the FIFRA debate and will be added to the House bill as a substitute for the current provisions.

However, environmentalists strongly oppose the Helms uniform tolerance proposal and say they will fight to remove it. The situation is reversed in the House, where Rep. Pat Roberts (R-Mo.), says he will attempt to add the prohibition to that chamber's bill.

The centerpiece of both the House and Senate bills is a new accelerated timetable for EPA's reregistration of pesticides currently on the market, but for which much health and safety data is lacking.

These chemicals were grandfathered in when the current law was drafted in 1972. But of the 800 active ingredients that new safety checks, EPA has completed action on just 127 in 14 years.

EPA says the problem is that the current law is too cumbersome, with a maze of regulatory steps and appeals processes and long deadlines for the gathering of data. Consequently, many of the chemicals on the market have never been tested to determine their safety.

Under the new legislation, EPA is required to reregister pesticides approved before November 1984, in about nine years. To help assure that funding will be available for this effort, companies seeking reregistration must pay one-time fees ranging up to \$150,000 for each active ingredient.

Fees can be waived or reduced for small businesses and for companies producing minor-use pesticides, such as the members of the Chemical Specialties Manufacturers Association.



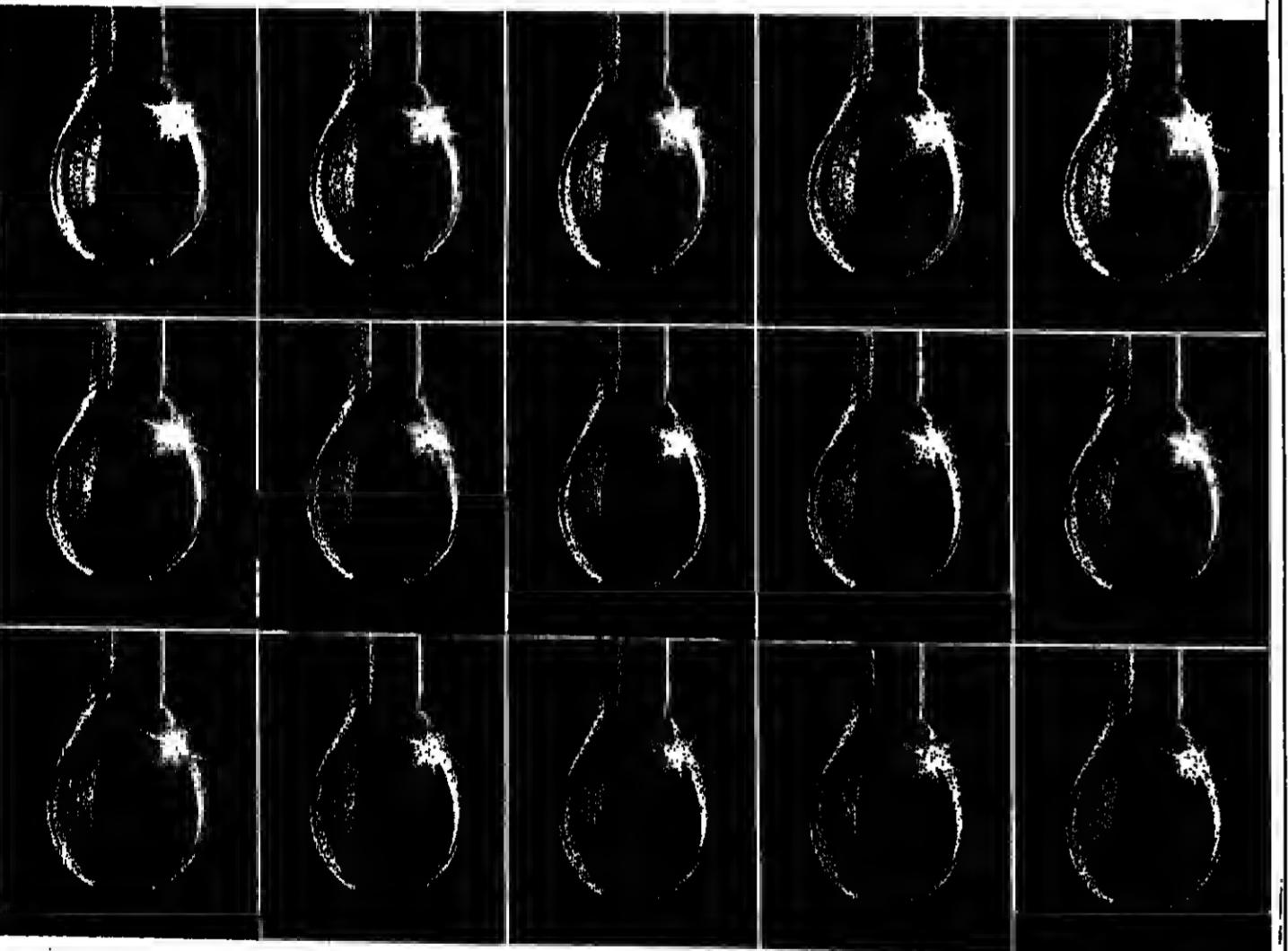
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DRUGS & FINE CHEMICALS

Methionine Prices Gain in '86, Offsetting Declines Last Year

Methionine producers now say further price increases are possible at the end of 1986 or, more probably, the beginning of 1987.

The most recent increase was effective April 1, initiated by Rhone-Poulenc and quickly followed by Degussa Corporation and Monsanto Company. Price increases were attributed to a weaker US dollar, which has dropped further since then. Both Rhone-Poulenc and Degussa import some material (Rhone-Poulenc from France, and Degussa from Germany). Regardless of the dollar, however, selling prices are still far below the levels of 1981 partly because of competition levels in 1985. This could be the justification for further increases, hint some producers.

In 1984, truckload price for contract customers of Degussa and Rhone-Poulenc was about \$1.90 per pound. The current price is \$1.20 per pound, up from \$1.07 per pound. Spot purchasers pay \$1.23 per pound for truckload quantities. One ton costs \$1.23 per pound (\$1.25 for spot buyers) and \$1.26 per pound for less than one ton (\$1.29 for spot buyers).

Meanwhile, Monsanto's "Alimet" (liquid methionine hydroxyanalogue) moved up to 99 cents per pound for contracted customers up from 88 cents per pound. Spot purchasers pay \$1.02 per pound. The company's "MIA," (methionine hydroxyanalogue calcium), a dry product, costs contract customers 97 cents per pound, up from 99 cents per pound. Spot buyers pay \$1.

CATTLE FEED ADDITIVE

Unlike lysine, methionine pricing is not closely related to those of soybean meal and fishmeal. One observer comments that methionine's price would have to be \$2.40 per pound before soybean meal and fishmeal producers would consider using less, and could dip to as low as 50 cents per pound before they would consider using more.

Research is being done to increase methionine's usage as a cattle feed additive. The primary problem has been finding a way for the methionine to bypass the rumen unchanged. One methionine producer explains that for methionine to be digested, it must reach the small intestine intact.

In cows, the methionine first goes to the rumen. It is then "attacked" by acids, broken down, and ceases to be effective. The producer says a coating of some sort will be needed to prevent the breakdown. Sources claim that some tests have been successful, but not on a consistent basis. Currently, un-

MSG — Pricing is still considered soft. It has been flat year, but some recent developments may cause a turnaround.

According to a major source of MSG, Taiwan recently announced a 7% to 10%

price increase of their MSG. They reportedly were not specific about the

DRUG & FINE CHEMICAL IMPORTS: JUNE

CENSUS BUREAU REPORTS ON THE TOP DRUGS

	JUNE	MAY
	QUANTITY	\$ VALUE
Acetaminophen	880,282	1,691,444
Benzodiazepine drugs, n.s.p.t.	201,373	2,112,000
Brusine	88,400	37,988
Calamine	368,680	1,666,008
Chloro Acid	4,249,778	2,686,951
Cream of Tartar	247,530	136,449
dl-pantothenic acid	435,725	1,229,908
Iodine, crude	108,028	803,284
Monosodium glutamate	7,281,115	3,895,193
Niacin, pharmaceutical grade	99,207	214,353
Penicillin G salts	161,544	1,810,622
Penicillin n.s.p.t.	16,012	1,096,648
Phenylalphamine HCl		
Potassium sodium tartrate, (Rochelle salts)	66,018	35,588
Quinidine	428,888	1,926,033
Quinine and its salts	110,654	225,088
Saccharin	146,058	313,355
Steroid hormones, synthetic	733,422	407,582
Bulimathiazine	158,672	753,711
Bulimethiazole	81,649	143,229
Tartaric acid	327,351	332,316
Vitamin A	375,712	2,683,404
Vitamin B ₁	162,928	780,048
Vitamin B ₂	231,748	3,084,889
Vitamin B ₃	13,463	801,044
Vitamin C	1,428,843	4,902,498
Vitamin E	271,810	1,345,470
Vitamin prolamide, etc., n.s.p.t.	61,672	159,021
Woolgrease, n.s.p.t.	865,702	807,271

DRUGS & FINE CHEMICALS

prices. MSG prices have recently been in the 74c. to 79c. per pound range.

The reasons behind this move are thought to be twofold. First, the Pacific Ocean Freight Company announced that effective Aug. 15, shipments from the Far East would be tagged with an additional freight cost of 1c. to 1 1/2c. per pound. The second reason, expected to affect everyone, is the depletion of Soviet material on the world market, because of the Chernobyl nuclear disaster.

Until these developments, pricing was called soft because of competition levels. One importer complains that there are too many companies involved in the market, and that this has kept pricing soft.

However, it is thought by some sources that the Taiwanese decision will influence others to alter their pricing. One importer says that his company has recently decided to reduce some of its TVs, for example.

BOTANICALS

LOCUST BEAN GUM — Pricing has fallen during the last few months, but is still far above normal levels.

Price is currently pegged at about \$4.95 per pound. This is a dip from the \$6 to \$9.75 per pound pricing of late last year, but almost double the \$2.50 per pound price of last year.

Sources had expected prices to soften to between \$4.50 and \$5 per pound. Now, they are waiting for new crop in September or early October. According to one source, at that point prices could either rise or fall, depending on the crop.

Supplies are considered readily available by one source, who says that concentrating on "clearing their shelves," in order to make room for the new crop. He mentions that no one wants to maintain an inventory now, in case prices fall after the new crop.

Imports are up for the first five months of 1986. Through May, 2.39 million pounds came into the US, as opposed to 1.9 million pounds through May 1985.

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MAGOX® Ag Grade MAGOX® 98 MAGOX® Slurry	Fertilizer	Supplementation in Mg deficient soils for such crops as citrus, tobacco, hay, potatoes, corn, vegetables, fruits and nuts.
MAGOX® 98HRF MAGOX® Premium Grade	Neoprene and other Elastomers	Highly reactive MgO for use in hoses, belts, gaskets and other automotive and mechanical products.
MAGOX® 98 MAGOX® 90 MAGOX® 95 MAGNESITE 33	Miscellaneous	Magnesite is used as an adsorbent, flocculent, filler, to make phenolic resins, to precipitate heavy metals from plant effluent and for insulation. Also used in the production of oil additives, and anti-corrosive coatings.

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have publicly disclosed evidence of sabotage if it existed.

In its statement last week, Carbide said it will "share our conclusions with the Indian government upon completion of our investigation."

Meanwhile, Union Carbide India, owner of the Bhopal plant, made provisions last week for a \$4.7 million writeoff of the plant. Union Carbide India is 50.9 percent-owned by Union Carbide Corporation.

Carbide Discloses

Continued from Page 3

pect as a way of trying to exert pressure on the Indian government to settle out of court.

Mr. Ahmad said, however, that if the company has "hard evidence" of sabotage, it should turn over such information to Indian authorities. He said the company would be obstructing justice by withholding such evidence.

"That's absurd," said Bud Holman, Carbide's outside legal counsel, who countered that the Indian government hasn't disclosed "a single bit" of its Bhopal investigation. "Is their failure to disclose an obstruction of justice?" Mr. Holman suggested that the government is withholding its own evidence of sabotage because it would hurt the government's case against Carbide.

Mr. Ahmad, who called Mr. Holman's remarks "absolutely ridiculous," insisted the government has "not come across any such evidence." He said the government would

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HEAVY & AG CHEMICALS

Potash Makers See

Continued from Page 7

prospects for potash remain bleak. Harry Baumes of Chase Econometrics, BalaCynwyd, Pa. says planted corn acreage in the US next Spring will fall 8 percent to about 70 million acres. Corn consumes about one-half of all potash sold in the US.

Mr. Baumes says that acreage planted is likely to be more heavily fertilized, but total potash consumption in the US should still fall about 3 percent this fertilizer year.

While most analysts concur that domestic demand for fertilizers will decline for another year, they suggest that the seed for a better business climate is in place. Mr. Baumes notes that while domestic plant nutrient consumption will be down 3 percent to 5 percent this year, greater knowledge of government farm policy allows for farmers and their creditors to plan the new season with more certainty. He says an established farm program puts farmers in a far better planning position than the uncertainty that greeted them last Fall, and the results should benefit all fertilizer producers, especially makers of low-priced potash.

CONSUMPTION WILL FALL.

A potash producer says fertilizer consumption in the US will decrease this year, but he adds, the potash producers industry has a little better understanding of demand expectations and can gear production in shipments better than (they did) last year when they had a difficult job of coordinating supply with demand. However, he also points out that "significant" domestic demand for fertilizers is still two to three years down the road.

Meanwhile, producers plan their hopes on the export market. One producer relates that exports through most of 1985-1986 were running a dismal 21 percent behind year earlier levels, before a late surge in overseas orders closed the deficit to 8.5 percent (2.8 million tons, K2O basis). The producer expects this trend to carry over through 1986-1987.

He says renewed buying interest from China and elsewhere will push North American exports in the current fertilizer year 10 percent to 15 percent above the 3.1 million tons of K2O sold overseas in 1984-1985. The producer adds that this anticipated surge in export consumption should roughly offset the projected decline in North American consumption of potash.

A spokesman for Canpotex, the Canadian potash export cartel, is slightly less optimistic about the export market, at least in the near term. He says excess world capacity has madeselling potash at a price that covers producers' cash costs increasingly difficult. He currently quotes potash export prices in the \$70-per-tonne range, f.o.b. Vancouver.

In his view, export shipments in the first half of the current fertilizer year should reach 1.7 million metric tons of product, up slightly from last year, and roughly the same as the six month period ended June 30, 1986. He says China has been purchasing potash. Dow says caustic demand in the first half

INORGANIC CHEMICAL OUTPUT: MAY

SELECTED FIGURES IN SHORT TONS FROM THE CENSUS BUREAU.

	MAY '86	APRIL	MAY '85
Aluminum sulfate, commercial	97,834	97,070	84,652
Calcium carbide, commercial	10,130	10,328	10,000
Calcium phosphate, dibasic hydrate	36,625	45,651	59,817
Caustic soda, dry	10,580	10,770	22,000
Caustic soda, liquid	940,465	925,540	900,750
Chlorine, liquid	897,325	875,300	860,750
Hydrochloric acid	662,547	650,576	624,901
Hydrofluoric acid	275,712	257,576	245,237
Hydrogen peroxide	15,183	14,543	10,401
Phosphoric acid	124,952	127,022	10,311
Phosphorus pentoxide	31,782	31,210	32,461
Phosphorus trisulfide	6,158	5,524	2,468
Potassium hydroxide, liquid	6,535	6,037	5,035
Potassium pyrophosphate, anhyd.	7,624	7,049	5,000
Sodium metal	1,391	1,407	21,152
Sodium sulfate, anhyd.	22,753	21,084	24,245
	69,260	71,770	72,720

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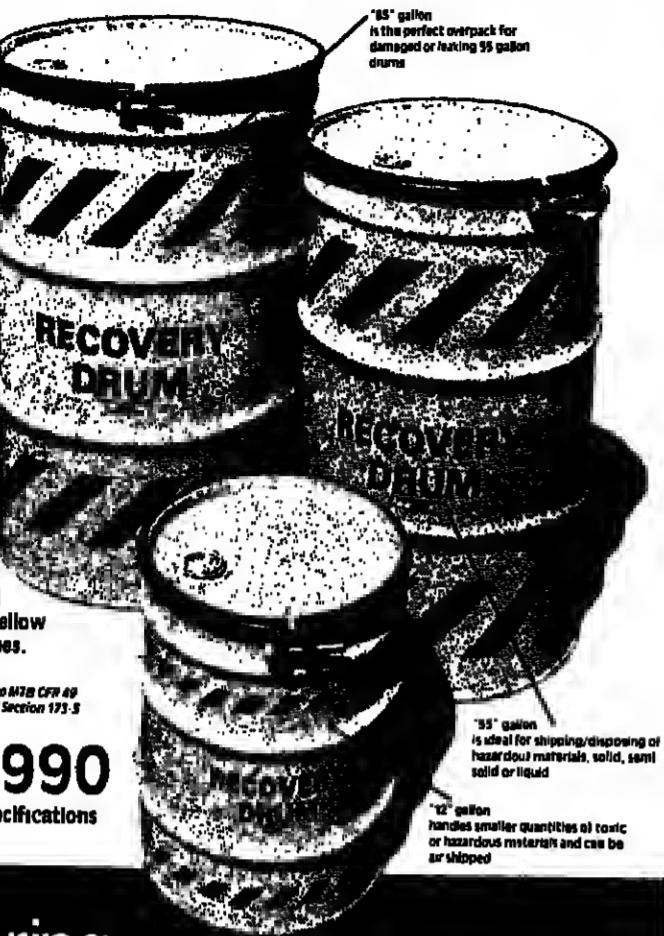
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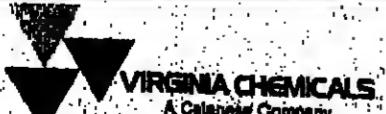
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of 1986 has climbed above your earlier levels in several segments. Sales to the chemical industry climbed 4 percent in the first half, demand in the petroleum refining business was up 3 percent in the period, while wood pulping used 3 percent more caustic and paper and paperboard production took 4 percent more solution. Textiles, a smaller end-use, used 11 percent more caustic in first half 1986 than in 1985.

At the same time, Dow says caustic soda's trade balance has improved this year. Partly due to the softer dollar, exports of caustic soda from the US have increased this year, while imports are on the decline.

These factors, improved demand and reduced supply have helped soak up extra caustic supplies, and have improved the balance between caustic and chlorine supply and demand. These conditions, coupled with "the need to restore price and margins in the chloralkali business," were the driving forces behind Dow's current price initiative.

Dow's current list prices for caustic will remain unchanged. The company also says that upon Superfund reauthorization, it will add the Superfund tax on chlorine and caustic soda as a separate line item to each invoice.

SULFUR DIOXIDE — Stauffer Chemical

Company says it will increase the price of liquid sulfur dioxide by \$10 per ton in 1987, per ton, bulk, effective September 1 or as contracts permit. Terms are f.o.b. Hammond, Ind., Baton Rouge, La., Houston, Tex., and Martinez, Calif.

Stauffer says the increase covers high sulfur costs and other production increases incurred since SO₂ prices were last raised over two years ago.

INDUSTRIAL GASES

Air Products and Chemicals, Inc. says it will increase the list price of its specialty gases and equipment, effective September 1, 1986. The list prices of most single component gases will rise 7 percent while most blended gas prices will increase 12 percent. The list price of gas-related equipment will increase 7 percent, the company says.

Air Products says these increases, the first since January 1984, will affect over 10 percent of the company's specialty gases.

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COATINGS & PLASTICS

Organic Peroxide Price Hike Holding Despite Overcapacity

Producers report that July's 5-cent-per-pound increases in MEKP (methyl ethyl ketone peroxide) prices and 6 to 8 percent increases in peroxydicarbonates and other production increases incurred since SO₂ prices were last raised over two years ago.

Spokesmen for both Lucidol and US Peroxygen said otherwise. A Lucidol representative explained that the Canadian plant explosion, which occurred early in the morning of

All suppliers except Reichhold Chemicals Inc., a smaller player in the market, have hiked prices for the peroxides.

One producer, Catalyt Resources Inc., which does not produce MEKP, raised prices for its dry benzoyl peroxide (BOP) from \$4.66 per pound to \$5.25 per pound, effective July. Other BOP producers have yet to follow with increases.

Although they assert that the increases have been held in most cases, producers have been having difficulty getting MEKP prices to stick to certain areas of the US, particularly on the West Coast. One source blames this on what several call the "bizarre pricing behavior" of one large producer, complaining that the firm has been dumping foreign-produced MEKP and BOP (the only peroxides which can be transported safely and relatively inexpensively) at slightly above cost in an attempt to steal market share. The source reports that the firm's parent company is currently involved in a major lawsuit with the EEC involving charges that it has been unfairly undercutting BOP prices, threatening to push a British producer out of business. "If the dumping continues, the source threatens, 'we'll see them in court.'

DUMPING DENIED

A spokesman for the company firmly denies these dumping accusations, insisting that imported material makes up an insignificant portion of the total amount of MEKP and BOP it offers on the domestic market.

Both MEKP and BOP market segments are currently dominated by overcapacity — as a source explains, one of his firm's plants alone would be capable of satisfying total domestic demand. When one considers that there are six domestic producers, the extent of the overcapacity problem is apparent. Sources give capacity utilization rates for the industry of 50 percent or less for MEKP and BOP.

The situation for peroxydicarbonates is much better, producers say. In the past inflicted by overcapacity, the industry is reportedly running at 60 to 65 percent capacity. PPG Inc. dropped out of the business in January, alleviating this problem to some extent.

One market source has indicated that there may be some short-term supply problems with peroxydicarbonates due to problems with Lucidol's and US Peroxygen's plants. The source feels that an accident at Lucidol's Fort Erie, Ontario plant two weeks ago may have had some disruptive effect on production. He also cites mechanical problems at the firm's Buffalo plant, which resulted in its being shut down for one week.

PLASTICS MATERIALS

SAN IRENINS — Sources say that demand for styrene acrylonitrile (SAN) resins is down largely as a result of imports, and substitution of cheaper plastics, such as acrylics and polystyrene, in major end-use applications.

Capacity utilization rates are said to be in the 65 to 70 percent range. Most of the SAN produced goes into PVC and ABS blends, but the merchant market for SAN is estimated

to be in the 60 percent range.

COATING & PIGMENT EXPORTS: MAY

BUREAU OF CENSUS FIGURES ON THE KEY PAINT MATERIALS.

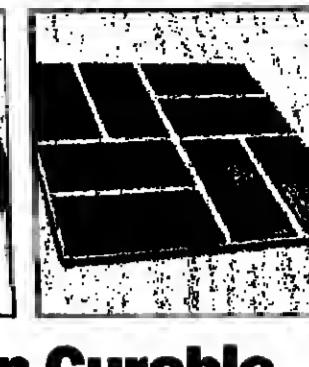
	MAY '86 QUANTITY	MAY '86 \$ VALUE		AUG '85 QUANTITY	AUG '85 \$ VALUE
Antimony compounds	...	...		...	...
Carbon black, including thermal	336,165	682,074	166,524	278,517	514,683
Chromium pigments (1)	27,965,000	4,887,723	30,621,000	4,905,570	5,000,000
Colors, lakes and toners (cycle)	333,388	496,818	305,488	491,546	500,000
Concentrated dispersions	...	...		...	...
Yellow	377,607	636,670	310,076	777,402	1,114,683
Red	723,917	133,573	124,008	1,219,328	1,219,328
Yellow	54,038	1,090,858	105,567	438,472	438,472
Blue	27,894	415,198	55,941	124,192	124,192
Black	285,324	685,671	344,192	3,448,678	3,448,678
Prepared paint and varnish driers	601,768	3,840,777	500,111	524,057	524,057
Iron oxide, nat. and synth.	381,537	230,768	310,082	230,768	230,768
Lead oxides	4,226,012	2,615,918	3,147,729	1,945,864	1,945,864
Phthalates	6,444,257	2,745,007	5,624,720	2,684,346	2,684,346
Antimony compounds	...	...		...	...
Yellow	1,214,143	387,908	917,670	222,008	222,008
Red	4,224,037	2,435,291	10,368,222	5,045,227	5,045,227
Yellow	15,227,710	10,164,017	18,940,540	10,770,077	10,770,077
Blue	817,600	142,581	148,007	142,581	142,581
Black	125,688	210,508	310,419	141,606	141,606

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PERFUMES & FLAVORINGS

NA Vanillin Price Stabilizes; Producers Resist Softening

North American vanillin producers say that pressure to reduce prices during the last three months has been ineffective, and feel pricing appears to have stabilized as a result.

List prices range from \$13 to \$13.75 per kilogram. While discounting is acknowledged, producers insist it's not great enough to warrant list price reductions. Pressure has come from lower-priced Chinese imports, which are reportedly priced at \$11 per kilogram. However, producers say that many customers prefer North American material, and are willing to pay more for it. Therefore, North American list prices are not expected to fall.

In fact, some producers hint that prices have a better chance of rising than falling during the fourth quarter of 1988. One producer comments that although there would be resistance to higher pricing by customers, an upward move may be justified by higher European pricing. After softening recently, European pricing is said to be between \$13.70 and \$14 per kilogram, and therefore is more attractive to some suppliers.

US supplies, generally considered tight at the beginning of Summer, are considered adequate now. This is despite a decline in imports during the first five months of 1988, compared to 1985. One producer cites softness in demand as a reason for the recent improvement in the supply-demand balance.

US IMPORTS DOWN

Through May, about 1.3 million pounds of vanillin came into the US, as opposed to about 1.5 million pounds through May 1985. China and France, whose imports are down 13 percent and 11 percent, respectively, are said to be sending more material to Europe. China has sent about 283,000 pounds here through May, while France has exported about 110,000 pounds to the US.

Canadian imports, of which Ontario Paper, the world's largest producer, is the main source, are down by 17 percent. However, a spokesman says the company is buying some vanillin in the US and then selling it, which accounts for much of the decline in imports.

ESSENTIAL OILS

CLOVES — The clove market was active last week, according to a broker. Trading is said to have taken place at higher levels because of short supplies in the US and Europe. Also, new crops from Brazil and Madagascar will not arrive to the US before late December or early January.

Cloves from Brazil and Madagascar were up 10¢ to \$2.20 per pound. Ceylon hand-

picked was priced at \$5.95 per pound, and Brazil Ceylon stems at 79¢ to 85¢ per pound.

NUTMEGS — Nutmegs advanced last week, with the Indonesian carter announcing no further sales until mid-September.

Eastern Indonesian reconditioned was up 10¢, to \$3 per pound; Eastern Indonesian

PRICES TRENDLINES

WEEK ENDING AUG. 15, 1988

CHANGES/UP

Antiseed, reconditioned, 6c per lb.
Aniseed, 6c per lb.
Cassia, K2 2.50, 2c per lb.
Cassia, KC 2.00, 3c per lb.
Cassia, KC 1.50, 3c per lb.
Cassia, Vare AA 2.75, 4c per lb.
Cassia, Vare AA 4/5, 5c per lb.
Casse, Vare AA, 8/10, 4c per lb.
Cloves, Madagasc/Brazil, 10c per lb.
Colander Seed, Moroccan, 1c per lb.
Cumin Seed, Turkish, 4c per lb.
Cumin Seed, I.C. Oct-April On/Off, 5c per lb.
Mace, Pudong Shilong, 5-10c per lb.
Nutmeg, w/ B.E., 8c per lb.
Nutmeg, E.I. Roncan, 10c, 7-10c per lb.
Nutmeg, W.J. Wlnod, 5c per lb.
Oregano, Greek 30 Mesh, 5c per lb.
Poppy Seed, Australia, 4c per lb.
Poppy, White Munro, 5-15c per lb.
Turmeric, Alleppo FAO 3-4c, 4c per lb.

CHANGES/DOWN

Alpicio, Guatemalan tonka, 2c per lb.
Alpicio, Mexican, 2c per lb.
Color Seed, 2c per lb.
Fennel Seed, Turkish Extra Fancy, 4c per lb.
Mace, Pudong Shilong, 5-10c per lb.
Pepino, Vianol, 8c per lb.
Pepper, Black, Jalap, 3c per lb.
Pepper, Black, Lampung, 1-3c per lb.
Pepper, Black Mombas, 3-5c per lb.

PERFUMES INDEX

The Perfumes & Flavorings Index reflects the prices of 11 representative materials in this sector and the quantity of each supplied in 1985.

Aug. 15, 1988 71.00
Aug. 8, 1988 71.00
July 18, 1988 71.00
Aug. 14, 1985 82.44

Chemical Prices Start on Page 32

CHEMICAL IMPORTS

US imports of chemicals and related materials are reported in this section by CPI materials. Listings include consignee where possible, container, net weight, name of vessel (in parenthesis), port of origin and date of shipment's arrival in New York or the Port of Newark.

US chemical imports/exports are tabulated monthly in the market reports.

A-1

2-AMINO-4-CHLORO-B-NITROPHENOL Order 25 dms

(5.743 lbs) (Ming Universe) Kobe, 7/3.

2-ETHYL-1,3-HEXANEDIOL Nudex 50 dms (37,560 lbs)

(7FL) (Aldebaran) Rotterdam, 3/30.

2-ETHYLHEXANIC ACID Order 1 ton (39,737 lbs)

(Aldebaran) Bremen, 7/2.

2-ETHYLHEXANIC ACID Shaffer 1 bks (2,204,587

lbs) (Aldebaran) Rotterdam, 7/2.

2-THIOPURINE Kuehne & Nagel 1 dms (24 lbs) (TFL

Frankfurt) Bremenhaven, 8/20.

5-AMINO-1,2,3-PROPAANOIC Henley 21 dms (5,558 lbs)

(Atlantic Compania) Gothenburg, 8/28.

3-METHYLTHIOPHENE Order 11 dms (4,850 lbs)

(Aldebaran) Liverpool, 8/28.

4-BENZYL-2,2-DIURETHANIC ACID Benzo Shpg 10

dms (3,314 lbs) (Ming Universe) Kobe, 7/3.

4-CHLOR-2-METHYLALKANE Order 12 ctn (5,767 lbs)

(Aldebaran) Rotterdam, 7/1.

4-METHYLHEXYLIC ACID Pan American Container 4

dms (538 lbs) (Aldebaran) Antwerp, 7/2.

4-PYRAZOLIC ACID Order 50 dms (7,273 lbs) (Ming Uni-

verse) Kobe, 7/3.

6-TRIOL-1,2-MINDBENZOTIAZOLE & PAA Order 70

dms (18,867 lbs) (Ming Universe) Susan, 7/3.

ABS RESIN Oldmark Plastic Compound 4,200 bgs

(22,342 lbs) (Ming Universe) Susan, 7/3.

ACETONE-CHLOROFORMOUREthane 243 dms (42,807

lbs) (Aldebaran) Liverpool, 8/28.

ACETOACET-ORTHO-TOLUIDINE Leyden Customs Ex-

porters 800 bgs (44,518 lbs) (American Minco) Kobe, 7/1.

ACETOPHENONE Dif 6 Barth 76 dms (37,254 lbs)

(Evoi Lyric) Rotterdam, 7/1.

Order 74 dms (35,891 lbs) (Aldebaran) Folkstone, 7/2.

ACRYLONIC Mixture 480 bgs (27,701 lbs) (Ming Uni-

verse) Kobe, 7/3.

ACRYLONITRILE-2-UTADINE RUB-868 Alba Fwdg 655

bs (13,181 lbs) (Starion) Yokohama, 8/28.

AGAR AGAR Allport 40 dms (4,659 lbs) (American Minco) Antwerp, 7/10.

DIALLYLIC ACID Shaffer 1 ink (35,582 lbs) (Ming Universe) Kobe, 7/3.

DIAMINOPHENYL-1YLMETHANE Glass Dely 242 dms

(42,628 lbs) (Aldebaran) Liverpool, 8/29.

DIAMINUM CARBOHATE ACS Chemical 607 bgs

(24,707 lbs) (Aldebaran) Bremen, 7/2.

UNI-Lines 150 lbs (13,380 lbs) (Evoi Lyric) Hamburg, 7/1.

MAGNOLIUM OXIDE Roussel 882 dms (78,710 lbs) (Ming Uni-

verse) Kobe, 7/3.

DICHLORODEN-2-OTRIFLUORIDE Order 1 ink (14,374

lbs) (Koh Express) Antwerp, 7/10.

DICHLORODIFLUOROMETHANE Kali Chemie 1 ink (1,123,223 lbs) (Starion) Bremen, 6/30.

DICHLORODIFLUOROMETHANE THANE Kali Chemie 1 ink (1,123,223 lbs) (Starion) Bremen, 7/1.

ALKYL SULFONIC ACID Pioneer Pleasants 4 dms (1,940

lbs) (Aldebaran) Bremen, 7/1.

ALKYLAMINE DIETHOXYSYTHYLAMINE Hanjin

Pharm Transport 23 btl (100 lbs) (Sea Land Voyager) Bremen, 7/13.

DIETHYLEN-TRIIMIDAMINE Trafalik 2 ink (65,938 lbs) (Aldebaran) Rotterdam, 7/2.

DIETHYLEN-CHLORIDE Order of Shaffer 1 bkg (1,123,223 lbs) (Starion) Rotterdam, 7/2.

DIHYDROOBST-PTOPHTHALIC Rhone Poulen 983 dms

(13,877 lbs) (Aldebaran) Antwerp, 7/1.

DISOXYLIC POLYMER MITAL 40 bgs (45,418 lbs)

(Koh Express) Rotterdam, 7/15.

MILORI BLUE Resinous Polymers 500 dms (18,865 lbs)

(YU) (Aldebaran) Bremen, 7/2.

Rhine Poulen 180 dms (43,380 lbs) (Aldebaran) Hamburg, 7/1.

SEBACIC ACID Falck Chemical 1,200 bgs (65,832 lbs) (American Minco) Kobe, 7/1.

MONODISULAMIT GLUTAMATE Aljomot 172 dms (76,001 lbs) (Holstentor) Bremen, 7/1.

SODIUM ALUMINATE Ralit 200 dms (22,040 lbs) (Evoi

Lyric) Antwerp, 7/1.

MONOCHLORACETIC ACID Order 201 dms (44,112 lbs)

(TFL) Rotterdam, 6/30.

MONOCHLORACETIC ACID Falck Chemical 1,200 bgs (65,832 lbs) (American Minco) Kobe, 7/1.

MONOSODIUM GLUTAMATE Aljomot 170 dms (76,000 lbs) (Holstentor) Bremen, 7/1.

MONOSODIUM GLUTAMATE Ralit 200 dms (22,040 lbs) (Evoi

Lyric) Antwerp, 7/1.

MONOSODIUM GLUTAMATE Shaffer 10 dms (4,980 lbs) (Koh Express) Folkstone, 7/21.

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CHEMICAL PRICES

WEEK ENDING AUGUST 15, 1986

This chemical prices section contains spot quotations and/or list prices of suppliers of chemicals and related materials on a New York or other indicated basis. The listings are based on price information obtained from suppliers. Note that posted prices do not necessarily represent levels at which transactions actually may have occurred. They do not represent bid and asked prices, nor a range of prices over the week. Price ranges may represent quotations of different suppliers as well as differences in quantity, quality and location. All matters under this heading are fully covered by copyright.

An Index of weekly chemical market reports is on the back cover.

A

Acetone, siberica oil, cns.....	lb. 15.00	-
Cataldehyde, 89%, tanks, frt. std. lb.	.37	-
Prices 1c. higher in West.		
Cetaminophen (see N-Acetyl-p-aminophenol)		
Cetamide, tech, flaked, bgs, t.i., f.o.b. works.....	lb. 1.29	-
Cetic acid, fech., tanks, divd. E	lb. .25	-
Cetic anhydride, tanks, divd. E	lb. .43%	-
Acetic anhydride prices 1c. higher in West.		
Cetocetanofide, dme., t.i., divd.	lb. 1.29	-
Cetocet-o-ontsidiide, dme., t.i., divd.	lb. 2.70	-
Cetocet-o-chloroentide, dme., t.i., divd.	lb. 2.85	-
Cefacet-o-toluclidide, dme., t.i., divd.	lb. 1.58	-
Cetocet-m-xylidide, dms., t.i., divd.	lb. 3.53	-
Cetone, tanks, divd. E	lb. .25	-
divd. Zone 2 (Calif.)	lb. .27	-
divd. Zone 5 (W. of Rockies excluding Calif.)	lb. .27	-
Cetonefride, tanks, frt. std.	lb. .53	.54½
Cetophenethidin (see Phenacetin).		
Cetophenone, fech., tanks, f.o.b. works.....	lb. .78	.85
perfume grade, extra, cns.	lb. 2.15	-
-Acetyl-p-aminophenol, c.i., t.i. works.....	kg. 6.95	6.64
Cetylene black, imp., 60% compressed, 12½-lb. bgs, c.i., t.i. frt. extra.	lb. .96	-
100% 25-lb. bgs., same basis	lb. .85½	-
Cetylene tetrabromide, tanks, t.o.b. works.....	lb. .87	-
Cetylalicylic acid, USP (see Aspirin).		
Cetylbutyl citrate, bulk, f.o.b. works.....	lb. 1.28	-
Cetylbutyl citrate, bulk, f.o.b. works.....	lb. 2.08	-
Cetrol, tech, tanks, works.....	lb. .82	-
Cetylamide, solid, t.i. works.....	lb. 1.00	-
soin, 100% butyl stearic, works. lb.	lb. .74	.77
Cetyllic acid, glacial, reg., tanks, divd.	lb. .87	-
tech, tanks, frt. std.	lb. .60	-
Cetylnitrite, tanks, works.....	lb. .39½	.46½
Cetylnitrite-butadiene-styrene resin, high-impact, nat., t.i., dms., divd.	lb. 1.09	1.12
medium-impact, nat., same basis lb.	lb. 1.05	1.08
low-impact, nat., same basis lb.	lb. .98	1.01
Alumina, activated, gran., 100-lb. bgs., 40,000-lb. min. o.i. works. ton calcined, bulk, same basis	ton 821.00	-
100-lb. bgs., same basis	ton 354.00	-
hydrated, white, bulk, same basis	ton 380.00	-
100-lb. bgs., same basis	ton 190.00	-
Aluminum acetate, basic, dms., t.o.b. works.....	lb. 5.26	-
Aluminum chloride, anhyd., scin., 500-600 lb. dms., c.i., t.i., works, iri. equald.	lb. .50	.55
bulk, same basis	lb. .45½	.48½
semi-bulk bns, same basis	lb. .46	.53
Aluminum chloride, comi. soln., 32° tanks, works	ton 100.00	-
ret. dms., c.i., works	ton 12.00	-
non-ret. dms., same basis	ton 20.00	-
Aluminum formate, dibasic, liq. 8% Al ₂ O ₃ t.i. works	lb. .66	-
Aluminum hydroxide (see Alumina, hydrated)		
Aluminum hydroxide, dried, gel, NF, 75-lb. dms., c.i., t.i., works. lb.	ton 2.75	3.50
Alumnum metal, 99½% or more, 50-lb. pigs., 30,000-lb. lot, frt. std.	lb. .78	-
Aluminum oxide amorphous (see Alumina, calcined).		
Aluminum paste, leafing grade, std., lining, 2,400 lb. lots, dms., t.i., lining, extra-fine, same basis	lb. 1.40	-
Aluminum phenolsulfonate, purif., 100-kilo dms., t.i.	lb. 6.48	-
Aluminum powder, leafing grade, std. lining, 2,400 lb. lots, divd.	lb. 3.17	-
extra fine, lining, same basis	lb. 4.04	-
Aluminum sealerite, bgs., c.i., t.i.	lb. 1.25	1.37
Aluminum sulfate, comi. grd., 100 lb. bgs., c.i., works, frt. equald. basis 17% Al ₂ O ₃ East and Gulf Coasts	ton 185.00	-
West Coast	ton 217.80	-
liq. tanks, N.E. same basis	ton 145.00	-
Iron-free, dry, bgs., c.i. same basis	ton 300.00	-
liq. tanks, same basis	ton 225.00	285.00
Aluminum sulfite, USP, gran., dms. lb.	ton .337	-
Aminoacetic acid, USP, dms., 20,000 lbs., f.o.b. works.....	lb. 2.12	-
tech, t.i., same basis	lb. 1.88	-
p-Aminobenzoic acid, 1,000 kilos or more, dms., f.o.b. works. kilo	lb. 6.80	10.10
2-Amino-4-chlorophenol dry and grd., 14,000 lbs. or more, frt. std.	lb. 5.79	-
Aminoethyl ethanolamine, tanks, frt. collect.	lb. 1.33½	-
N-Aminoethyl piperazine, tanks, t.o.b. frt. collect.	lb. 1.05	-
2-Amino-2-ethyl-1,3-propenediol dms., t.i. f.o.b. works.	lb. 1.82	-
Ammonium acetate, basic, dms., t.o.b. works.....	lb. 100lbs.	18.00
USP, gran., dms.	lb. .40	.53
Ammonium citrate, dibasic, 250-lb. dms. f.o.b. works.	lb. 2.79	-
Ammonium dimolybdate, approx. 65%, 24,000 lbs. or more. lb.	lb. 5.48	-
Ammonium fluoroborate, tech., dms., c.i., t.i., works, frt. equald.	lb. 1.79	-
Ammonium heptamolybdate, cryst. dme., 24,000 lbs. f.o.b. works.	lb. 5.57	-
Ammonium lauryl sulfate, tanks, f.o.b. works.	lb. .29	.32
Ammonium lignin, sulfonate, bulk, 1,000-kilo Roquiam, Ore.	ton 72.00	-
Ammonium nitrate, dom., fertilizer grade, 33.5% N, bulk, S.E. divd.	ton 130.00	135.00
Ammonium oxalate, tech., fine, gran. 300-lb. dms., t.i., f.o.b. works.	lb. 1.42	1.58
Ammonium pentaborate gran. bgs., o.i. works.	lb. .75	-
Ammonium pentaborate powder 20c. per lb. higher.		
Ammonium persulfate, 225-lb. dms., 24,000 lbs. or more, f.o.b. works.	lb. .58	-
66-lb. bgs., same basis	lb. .56½	-
Ammonium phosphate (see Dl. and monoammonium phosphates).		
Ammonium siliciculfide, dms. c.i., t.i. works.	lb. .30½	-
Ammonium sulfite, lg. gran., bulk, c.i. works.	ton 80.00	90.00
std. comi. bulk, f.o.b. works.	ton 80.00	70.00
tech., bgs., c.i., t.i., works.	ton 108.00	120.00
Ammonium sulfide, liq., 40-44% tanks, 100% basis, iri. equald.	ton 460.00	-
Ammonium sulfocyanide, fech. (see Ammonium thiocyanate).		
Ammonium thiocyanets, fech., cryst. bgs., c.i. works.	lb. 1.02	-
tech. soln., 50%, tanks, frt. equald.	lb. .93	-
Ammonium thiosulfate, photographic, 80%, tanks, f.o.b. works. lb.	lb. .13	-
Ammonium zirconyl carbonato, soln. bulk.	lb. .72	-
Amyl acetate, primary mixed isomere, tanks, dms., t.i.	lb. .57	-
Amyl alcohol, primary mixed isomere, tanks, dms., t.i.	lb. .48½	-
Amyl cinnamyl aldehyde, dms.	lb. 2.36	2.50
p-Fer-Amylphenol, bulk, works.	lb. .91	1.03
Amryia oil, dms.	lb. 11.50	12.25
Anethole, tech., dms.	lb. 10.20	-
USP, dms.	lb. 3.65	4.60
Angelica root oil, bogs.	lb. 700.00	-
Aniline, tanks, t.o.b.	lb. .33	.35½
Anise oil, dms.	lb. 11.75	-
emulsion, tanks, tankwagons, E. Coast.	gal. .53	.68
steam-refined, 40-300 penetration, tanks, tankwagon.	ton 170.00	-
steep roofing grade, bulk tankwagons.	ton 176.00	-
Aspirin, USP, cryst., powd. 250-lb. dms. c.i., t.o.b.	lb. 1.95	-
10% starch granulation, white, 250-lb. dm. c.i., t.o.b.	lb. 1.97	-
16% starch granulation, white, same basis	lb. 2.00	-
Freight equald. shpt. identical quantity over 500 lbs. from N.Y., Phila., Midland, Mich., Chicago, Louis		
Atropine sulfate, USP, bogs.	oz. 1000	-
Avocado oil, dms.	lb. 4.00	-
Azelaic acid, tech. 50-lb. bgs., t.i., c.i., divd.	lb. 1.23	-
Azo orange, bbls., divit.	lb. 4.60	-
Azo yellow, 10 G. bgs., divd. E of Rockies	lb. 4.40	-
Azo G yellow pigment, bgs., smc basis.	lb. 2.45	-
Bacitracin, USP, trix-strepto, one billion units of iron, million units of iron, NF, 50-kilo dms., divd.	lb. 8.30	-
Borbitol, NF, 50-kilo dms., divd.	lb. 22.50	-
Borbitol-citramin, NF, 50-kilo dms., divd.	lb. 23.00	-
Borite, dry-grd. Smutthum, off-color, coarse, bgs., c.i., t.o.b. min. lb.	lb. .09	-
water-grd., white, tuy., c.i., t.o.b.	lb. .13	-
unbleached, extra-fine, pigment ground, c.i., t.o.b. works.	ton 160.00	-
Onium carbonato, prcpn., bulk, c.i., works, lit. opak.	lb. .25	-
liq., smc bns.	lb. .25	-
phot. grdn, liq., smc basis on phot. grdn, liq., smc basis on	ton 510.00	-
Onium chlorite, 100-lb. dms., 1-10 dm. lots, works.	lb. 1.04	-
Onium chlorite, tech., cryst., bgs., c.i., t.o.b. works.	lb. 470.00	-
anhyd. drum, c.i., same basis.	lb. 680.00	-
Onium chlorite, purif., cryst. 400-lb. dm. lots, works.	lb. 3.76	-
Onium methylhydroxy, 55-lb. bgs., c.i., t.i. t.o.b. works.	lb. 48.00	-
Onium methylhydroxy, cryst., bgs., omno basis.	lb. 33.00	-
Onium nitrite, 100-lb. bgs., c.i., t.o.b. works.	lb. 32.65	-

ABBREVIATIONS

THE TERMINOLOGY OF THE CHEMICAL MARKETPLACE

<i>alpha</i>	<i>Centrifgrade</i>	<i>E/East</i>	<i>Incl./Included</i>	<i>o/ortho</i>	<i>sec./second</i>
<i>alid./allowd</i>	<i>cbya./carboye</i>	<i>e.p./end point</i>	<i>Indust./Industrial</i>	<i>ord./ordinary</i>	<i>sp.g./specific gravity</i>
<i>amorph./amorphous</i>	<i>c.o./cubic centimeters</i>	<i>aqueld./equalized</i>	<i>kgs./kgs</i>	<i>oz./ounce</i>	<i>ship./shipment</i>
<i>AMP/American melting</i>	<i>CD/completely den-</i>	<i>exp./expressed</i>	<i>lb./leavo</i>	<i>P/phosphorus</i>	<i>soln./solution</i>
<i>point</i>	<i>atured</i>	<i>extr./extracted</i>	<i>lb./pound</i>	<i>p./pare</i>	<i>std./standard</i>
<i>anhyd./anhydrous</i>	<i>c.l./cost Insurance</i>	<i>F./Fahrenheit</i>	<i>t.c./less carload</i>	<i>Pea./Pacific</i>	<i>syn./synthetic</i>
<i>AOAC/Association of</i>	<i>freight</i>	<i>f.a.s./free elongalda</i>	<i>t.t./less truckload</i>	<i>pl./proof</i>	<i>tanks/rebroad tanks</i>
<i>Official Agricultural</i>	<i>l.o./marload</i>	<i>ferment./fermentation</i>	<i>lq./liquid</i>	<i>phos./phosphate</i>	<i>tech./technical</i>
<i>Chemists</i>	<i>cne./cane</i>	<i>f.i./free fatty acid</i>	<i>m-/meta</i>	<i>photo./photographic</i>	<i>terr./territory</i>
<i>a.p.a./available phos-</i>	<i>com./commercial</i>	<i>f.i.p./free from chlorine</i>	<i>m.a.p./mixed enilne</i>	<i>pigge./packaged</i>	<i>T.I./truckload</i>
<i>phoric acid</i>	<i>con./concentrated</i>	<i>fib./fiber</i>	<i>point</i>	<i>powd./powdered</i>	<i>ton/ton/ton to short ton</i>
<i>approx./approximately</i>	<i>cp/chemically pure</i>	<i>i.o.b./free on board</i>	<i>mcg./microgram</i>	<i>precip./precipitated</i>	<i>of 2,000 pounds</i>
<i>artif./artificial</i>	<i>cps./centipoise</i>	<i>i.p./freezing point</i>	<i>min./minuctures</i>	<i>prod./producer</i>	<i>TVA/temporary volun-</i>
<i>ASTM/American Soci-</i>	<i>cryst./crystalline</i>	<i>frt./freight</i>	<i>min./minimum</i>	<i>pt./point</i>	<i>try allowance</i>
<i>ety for Testing &</i>	<i>cs./cases</i>	<i>g-/gamma</i>	<i>mol./molten</i>	<i>pulv./puverized</i>	<i>L.w./tankwagons</i>
<i>Materials</i>	<i>ctns./cartons</i>	<i>gal./gallon</i>	<i>m.p./melting point</i>	<i>puri./purified</i>	
	<i>cyls./cylinders</i>	<i>g.p./general purpose</i>	<i>N/nitrogen</i>	<i>redlet./redfilled</i>	
		<i>gran./granular</i>	<i>n-/normal</i>	<i>refd./refined</i>	
		<i>grd./ground</i>	<i>nat./natural</i>	<i>refy./refinery</i>	
		<i>lb.p./initial boiling</i>	<i>neut./neutral</i>	<i>resub./resublimed</i>	
		<i>point</i>	<i>NF/National Formulary</i>	<i>ret./returnable</i>	
		<i>imp./imported</i>	<i>No./number</i>	<i>SO/specially denatured</i>	
			<i>Nom./nominal</i>	<i>s.d./single distilled</i>	
				<i>SE/Southeast</i>	
				<i>sec./secondary</i>	
				<i>W/W/wet</i>	
				<i>whse./warehouse</i>	
				<i>w.w./waterwhite</i>	

NOTE: A unit-ton is 1 percent of 2,000 pounds of the basic constituent or other standard of the percentage figure of the basic constituent multiplied by the unit-ton price shown. In Chemical Reporter gives the price of 2,000 constituents.

Barium oxide, grd., dims., c.i. div. 100 lbs. 31.25 -	Borax, tech., gran., docahydrate, 99.5% basis, c.i., works ton 237.00 -	Calcium carbide, std., generator size, bulk, c.i., o.b., works, ... ton 402.00 -
late bins, same basis, ... 100 lbs. 30.00 -	bulk, c.i., works ... ton 192.00 -	Calcium carbonate, pulverized, 325- mesh, bgs., bulk, f.o.b. works, ... ton 34.50 -
Barium peroxide, 700-lb. dims., c.i., f.i. works, ... lb. .30 -	tech., pentahydrate, gran. 99.9%, bgs., c.i., works ... ton 220.00 -	sturries, 54% solids, same basis, ... ton 187.00 -
Barium stearate, bulk, i.i., f.o.b. dest. lb. 1.05 -	bulk, c.i., works ... ton 265.00 -	72% solids, same basis, ... ton 98.00 -
Barium sulfate, tech. (see Barite and Blanc fixe)	Borax, NF (See Sodium borate).	quicklime, gran., Ind., bulk, work- s, ... ton 57.00 -
Barium sulfate, USP, X-ray diagnosis grade, powd., 25 kilo bgs., 10,000-lb lots, ... lb. 58.5 -	Boric acid, tech., gran. 99.9%, bgs., c.i., works ... ton 514.00 -	Calcium carbonate, costed, bgs., c.i., works, ... lb. .0742 .1350
Barium sulfate (black ssh), dims., c.i., works, ... ton 460.00 -	bulk, c.i., works ... ton 569.00 -	Calcium carbonate, precip., bgs., c.i., ... ton 370.00 430.00
Basil Egyptian lb. .75 .85	Boron trichloride, CP, 1,000-lb cyls., works, ... lb. 3.80 -	Calcium carbonate precip. medium, bgs., c.i., works, ... ton 85.00 140.00
French lb. .88 .00	Boron trichloride, 60-lb cyls., i.i., f.o.b. works, ... lb. 4.03 -	precip. dense, bgs., c.i., surface treated, bgs., c.i., works, ... ton 195.00 -
Bast oil, Comores lb. 90.00 -	Boron trichloride, etherato, 500-lb cyls., i.i., f.o.b., works, ... lb. 2.35 -	ultrafine, USP, bgs., c.i., works, ... ton 180.00 170.00
Bast oil, Grand Vent lb. 46.00 -	phenolato, 500-lb dims., i.i., mino basis, ... lb. 1.65 -	Calcium chloride, conc., reg. grade, 77- 80%, flake, bulk, c.i., works, ... ton 153.00 -
Battery acid, i.i., f.o.b., works, ... ton 52.00 70.75	Bromine, dims., i.i., works, ... lb. .87 -	100-lb. bgs., c.i., same basis, ... ton 198.00 -
Bauxite, calcined, refractory grade, 87%-88% Al_2O_3 , Balmora & Mobile, ... metric-ton 220.28 -	bulk, 45,000-lb min., works, ... lb. .33 .34½	anhyd., 94-97%, flake or pellet, bulk, c.i., same basis, ... ton 217.00 -
Bayo, NF, 55-80%, dims., ... lb. 10.50 15.00	puri., 1-lb. divd. ... lb. .75 -	80-lb. bgs., c.i., same basis, ... ton 278.00 -
Bayberry wax, bgs., ... lb. 2.70 3.00	Bromine divd., prices for dims. and bulk shipped W. of Rockies, 1c. per-lb higher. Bulk 1-lb. prices 1c. to 2½c. per-lb. higher for 30,000-lb min. and 4c. to 5½c. per-lb. higher for 15,000-lb min.	Brining grade, 80-lb. bags, ... ton 285.00 -
Besswax, refd., bleached white, bricks, 100-lb. ctns., ... lb. 3.10 3.20	Bromochloromethane, dims., c.i., f.o.b. Midland, ... lb. 1.12 -	Calcium chloride, lq., 100 percent ba- sis, i.c., i.i., barge, ... ton 99.75 -
white, slabs, 100-lb. ctns., ... lb. 3.05 3.10	Butaric acid, tanks, f.o.b., ... lb. .26 .26½	45% same basis, ... ton 118.00
yellow, bricks, 100-lb. ctns., ... lb. 3.00 3.10	1,4-Unteniodiol, tanks, f.o.b., i.i., equid., ... lb. .80 -	Calcium chloride, USP, gran., 225-lb. dims., i.i., f.o.b., equid., ... lb. .90 -
yellow, slabs, 100-lb. ctns., ... lb. 2.95 3.05	Butyric tanks, f.o.b., ... lb. .88 -	Calcium citrate, pur., 200-lb. dims., 10,000 lbs. or more, f.o.b., works, ... lb. 3.82 -
Bentonite, dom., c.i. bags, f.o.b. works, ... ton 43.50 -	Butene-1, tanks, f.o.b., works, ... lb. 20 .28	Calcium cyanamide, indust., anhyd. dims., works, ... ton 400.00 450.00
Benzaldehyde, NF, dims., ... lb. 1.25 -	n-Butyl acetone, syn., tanks, f.o.b., i.i., puri., ... lb. .52½ -	Calcium gluconate, USP powd., i.i., lb. 1.80 -
tech., dims., c.i., f.i., ... lb. .73 .83	n-Butyl acrylato, tanks, f.o.b., i.i., puri., ... lb. .59 -	Calcium hydride, lump, dims., 25- 1,000-lb. lots, works, ... lb. 10.50 13.25
Prices are 4c. per lb. higher West of the Rockies.	n-Butyl alcohol, syn., teinent, tanks, 1-lb. alid., ... lb. 34 -	Calcium hypochlorite, 100-lb. dims., truckloads ship.i. E. of Rock- ies, ... 100 lbs. 92.40 -
Benzene, indust. or nitration, barges, f.o.b.	sec-Butyl alcohol, syn., tanks, divd. lb. 365 -	Calcium hypophosphate, dims., bulk, 500 kilos or more, ... kilo 13.75 14.50
Baton Rouge, La., ... gal. .75 -	tert-Butyl alcohol, syn., tanks, divd. E., ... lb. .70 -	Calcium iodate, FCC dims., f.o.b. works, ... lb. 5.50 -
Baytown, Tex., ... gal. .75 -	Butyl aldehyde (see Butyraldehyde)	Calcium iodide, 50-kilo dims., f.o.b., works, ... kilo 23.65 25.85
Beaumont, Tex., ... gal. .75 -	Butyl benzyl phthalate, tanks, f.o.b. alid., ... lb. 53 -	Calcium lactate, NF, powd., pentahy- drate, dims., 24,000 lbs. or more f.o.b. works, ... lb. 2.00 -
Calcutta, Ky., ... gal. .75 -	Butyl chloride, tanks, works, ... lb. .99 1.00	11F gran., trihydrate, same basis, lb. specular or dihydrate, same basis, ... lb. 2.10 -
Chicago district, ... gal. .75 -	n-Butyl chloride, tanks, f.o.b. works, lb. 1.01 -	Calcium magnesium, 4% Ca, 61 10-lb. plant F of Rockwood, ... lb. 2.80 -
Chocolate Bayou, Tex., ... gal. .75 -	Butyl isobutyl phthalate tanks, ... lb. 1.85 -	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Clairton, Pa., ... gal. .75 -	Butyl isobutyl phthalate tanks, ... lb. 35 -	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Corpus Christi, Tex., ... gal. .75 -	n-Butyl isobutylate, tanks, f.o.b. works, lb. 1.58 -	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Dear Park, Tex., ... gal. .75 -	n-Butyl isobutylate, tanks, f.o.b. works, lb. 15.45 -	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Houston district, spot, ... gal. .70 -	Butyl isobutyl phthalate tanks, ... lb. 14.75 -	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Wood River, Ill., ... gal. .75 -	Butyl isobutylate, tanks, f.o.b. works, lb. 80 -	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Benzene hexachloride, 99% gamma isomer (see Lindane)	Butyl isobutylate, tanks, f.o.b. works, lb. 45 47	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Benzidine orange, powd., bgs., divd. lb. 10, containers, divd. ... lb. 4.90 8.70	Butyl isobutylate, tanks, f.o.b. works, lb. 81 -	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Benzidine yellow, AAA, bgs., divd. lb. 3.36 3.09	Butyl isobutylate, tanks, f.o.b. works, lb. 70 -	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Benzidine yellow, 60%, bgs., divd. lb. AAQ, bgs., divd. ... lb. 5.80 6.05	Butyl isobutylate, tanks, f.o.b. works, lb. 11 17	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
AAQ, bgs., divd. ... lb. 7.35 7.40	Butyl isobutylate, tanks, f.o.b. works, lb. 10 12	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Benzocaine, USP, dims., 1,000kg lots, f.o.b., works, ... kg. 5.95 6.20	Butyl isobutylate, tanks, f.o.b. works, lb. 10 12	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Benzocaine, USP, dims., 1,000kg lots, f.o.b., works, ... kg. 10.00 11.50	Butyl isobutylate, tanks, f.o.b. works, lb. 11 17	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Benzodihydropyran, dims., ... lb. 12.50 -	Butyl isobutylate, tanks, f.o.b. works, lb. 11 17	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Benzoyl acid, tech., bgs., c.i., f.o.b. works, ... lb. 55 50	Butyl isobutylate, tanks, f.o.b. works, lb. 11 17	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
USP-cryst., dims., ton/bbl same ba- sis, ... lb. 1.73 1.75	Butyl isobutylate, tanks, f.o.b. works, lb. 11 17	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Benzogum, Sumatra, cs., ... lb. 1.80 -	Butyl isobutylate, tanks, f.o.b. works, lb. 11 17	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Benzophenone, NF, 1,000 lbs. or more, f.o.b., ... kg. 3.50 3.60	Butyl isobutylate, tanks, f.o.b. works, lb. 11 17	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
N.F. 1,000 kilos or more, f.o.b., ... kg. tech., 1,000 kilos or more, f.o.b., works, ... kgs. 7.45 -	Butyl isobutylate, tanks, f.o.b. works, lb. 11 17	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
22-Benzothiazyl disulfide (see Mercaptobenzothiazyl di- sulfide).	Butyl isobutylate, tanks, f.o.b. works, lb. 11 17	Calcium magnesium, 10% Ca, 90 10-lb. plant F of Rockwood, ... lb. 2.80 -
Benzothiazole, flake, dims., 1,000 lbs or more, f.o.b. works, ... lb. 6.10 -	Butylamine (see Mann, Di- and Tributylamine)	III-Calcium paulothonate, calcium chlo- ride complex, food grade, 150 grams per lb. f.o.b. ... ton 2.75 -
powd., dims., 1,000 lbs. or more, same basis, ... lb. 8.20 -	Butylamine, diure, c.i., i.i., f.o.b. works, ... lb. 1.31 -	Calcium phosphate, dibasic, lead quao, 10½% P, bulk, c.i., f.o.b. works, ... ton 228.00 -
photo-grade, dims., 1,000 lbs. or more, same basis, ... lb. 9.00 -	Butylamine, diure, c.i., i.i., f.o.b. works, ... lb. 1.17 -	Calcium phosphate, dibasic, dihydrate, USP, bgs., c.i., f.o.b. works, ... lb. 100 lbs. 82.50 -
Benzolchloride, refl., dims., i.i., f.i. equid., ... lb. .67 -	Butylated hydroxyanisole, food grade, diss., divd. ... lb. 8.00 8.05	anhyd., USP, same basis, ... 100 lbs. 71.75 -
lanks, f.i. equid., ... lb. .00 -	Butylated hydroxyanisole, food grade, diss., divd. ... lb. 1.24 1.30	domestic grade, same basis, ... 60 lbs. 48.90 -
Benzoyl chloride dims., c.i., works, lb. tanks, f.o.b. equid., ... lb. .57 .51	Butylated hydroxyanisole, food grade, diss., divd. ... lb. 1.24 1.30	Chlorine phosphate, monobasic, monohydrate, food grade, bgs., c.i., f.o.b. works, ... lb. equid., ... 100 lbs. 50.60 -
Benzoyl peroxide, regular gran., 10,000-lb. lots or more, bgs., works, f.o.b. equid., ... lb. 2.35 0.98	Butylated hydroxyanisole, tanks, f.o.b. plant lb. 1.20 -	Chlorine phosphate, monobasic, monohydrate, food grade, bgs., c.i., f.o.b. works, ... lb. equid., ... 100 lbs. 50.60 -
paste, 50% and 55% formulations, dms., pella, f.o.b. equid., ... lb. 1.71 1.01	Butylated hydroxyanisole, tanks, f.o.b. plant lb. .03 -	Chlorine phosphate, monobasic, monohydrate, food grade, bgs., c.i., f.o.b. works, ... lb. equid., ... 100 lbs. 50.60 -
10,000-lb. lots or more, bgs., works, f.o.b. equid., ... lb. 2.35 0.98	Butylated hydroxyanisole, tanks, f.o.b. plant lb. .54 -	Chlorine phosphate, monobasic, monohydrate, food grade, bgs., c.i., f.o.b. works, ... lb. equid., ... 100 lbs. 50.60 -

CHEMICAL PRICES

WEEK ENDING AUGUST 15, 1988

bon Black, low structure, bulk, c.i. works	lb.	240	28
ags, c.i. works	lb.	270	28
18-methylidene-super-abrasion (ISAF)	lb.	25	-
bgs, c.i. works	lb.	28	-
super-abrasion (SAF), bulk, c.i. works	lb.	31	-
bgs, c.i. works	lb.	4050	-
semi-inforcing (SRF), bulk, c.i. works	lb.	210	-
bgs, c.i. works	lb.	240	-
carbon black, thermal, medium, bgs, c.i. works	lb.	30	30
bulk, c.i. works	lb.	32	30
carbon black oil, barga, f.o.b. Gulf refineries	bbls.	10.50	12.50
t.o.b. W. coast fisheries	bbls.	10.60	12.50
carbon disulfide, t.c., 1.o.b. works ton	420.00	-	-
carbon tetrachloride, CP, consumer, dims., c.i., Int. std.	lb.	.36	-
tech, dims., c.i., t.i., Int. std.	lb.	.51	-
tank transport (min. 4,000 gals.) Int. std.	lb.	.24	-
Carboxymethyl cellulose (see CMC).			
Cardamom oil, NF, bals.	lb.	75.00	100.00
Cardamoms, decor, Guatemalan	lb.	3.25	-
green, Guatemalan, bgs.	lb.	8.25	9.75
Carmine, No. 40, NF, bulk, 100-lb. lots or more, divd.	lb.	135.00	140.00
Carnauba wax, Pernambuco, No. 1, yellow, bgs, ton lots	lb.	1.95	2.00
Cesra, No. 1, yellow, bgs, ton lots	lb.	1.75	1.75
North Country, No. 2, refined, bgs, ton lots	lb.	1.55	1.55
Carnauba wax, North Country No. 3, centrifuged, bgs, ton lots	lb.	1.10	-
North Country, No. 3, refined, bgs, ton lots	lb.	1.30	1.30
Powdered carnauba wax, 20 to 100 mesh, 20c per lb, higher			
h-Carotene, in vegetable oil, semi-solid suspension, 400,000 A units per gram, 33 lbs or more	lb.	33.75	-
u-Carotene, liq, in vegetable oil, 500,000 A units per gram, 33 lbs or more	lb.	40.75	-
b-Carotene, dry, beads, 10%, 167,000 A units per gram 50-lb cans	lb.	26.85	-
d-Carotene, 25-lb dims. syn.	lb.	48.00	-
l-Carrene	lb.	7.00	-
Cascare seagrada bark, bulk	lb.	1.00	-
Casselin, Imp. scd-precip., prd., 30-mesh, Australian, edible, same basis, c.i.f.	lb.	1.45	-
Australian, indust., same basis, c.i.f.	lb.	1.365	-
Cassella scd, 303 mol. wt., dims., Int. std., 100% basis	lb.	8.70	-
Cassia, Konkini "A" bgs.	lb.	.90	-
"B" bgs.	lb.	.72	-
Castor oil, raw, No. 1, Braz. tanks	lb.	32½	-
USP 5-8 dims.	lb.	.74	-
refd. dead, 5-9 dims.	lb.	.78	-
blown, 6-9 dims.	lb.	.75	-
dehydrated, bedded, tanke	lb.	.74	-
dehydrated, unbodied, tanke	lb.	.65	-
Castor oil, acid, dehydrated, dims. lb. ricinoleic acid	lb.	1.10	-
Castor pomace, bgs, container load, 1.o.b., Miami, Fla.	ton	164.00	-
Castoreum, nat., cns.	lb.	18.00	30
syn. cns.	lb.	11.00	-
Catechol, CP, 45-kilo dims., 50-238 dims., f.o.b.	kilo	7.83	-
tech., bgs, t.i., same basis	kilo	3.71	-
Cavestio potash (see Potash, caustio).			
Causio soda (see Soda, caustio).			
Cedarleaf oil, dims.	lb.	17.50	-
Cedarwood oil, Texas, dims., cra.	lb.	3.50	-
Virginia	lb.	3.70	-
Cedrol, prime dims.	lb.	5.25	-
Cedryl acetate, dist., dims.	lb.	4.26	-
Celery seed, Indian, bgs.	lb.	.46	-
Celery seed oil	lb.	50.00	50
Cellulose acetate, powd., bgs, t.i. divd. E.	lb.	1.30	-
Cellulose acetate butyrate, powd., 17% butyl content, bgs, t.i. divd. E.	lb.	1.75	-
38% butyl content, bgs, divd. E.	lb.	1.59	-
60% butyl content, bgs, divd. E.	lb.	1.81	-
55% butyl content, bgs, divd. E.	lb.	1.63	-
Cellulose gum, pure, high vis., bgs, 24,000-lb. lots or more, works	lb.	1.60	-
1.o.b. Hopewell, Va.	lb.		
std., low or medium vis., bgs, o.i., t.i., 1.o.b. Hopewell, Va.	lb.	1.60	-
Cerium concentrate CeO_2 , 50 lbs.	lb.	1.36	-
Cerium hydroxide 90% CeO_2 , dims. works	lb.	6.40	-
77% CeO_2 , dims. works	lb.	4.20	-
Cerium oxide, optical grade, bgs, 50-lb. lots or more, divd.	lb.	1.85	-
Cetyl stearate, NF, cns., o.i., t.i., divd. E.	lb.	.66½	-
Ceuk (see Calcium carbonate).			
Chamomile flowers, Hungarian, cns.	lb.	4.28	-
Roman, cns.	lb.	4.94	-
Egyptian, whole	lb.	2.70	-
Chamomile oil, blue, Egyptian	lb.	545.00	-
blue, Hungarian	lb.	370.80	-
Chenopodium oil, NF, ons.	lb.	15.00	-
Chicago acid, dry, bbls., Int. std.	lb.	13.60	-
Chilean (see Pepper, red).			
Chloride anhydride, tech., dims., t.i. works	lb.	1.30	-
Chlorinated paraffin, 40% chlorine, bulk, divd., Zone 1	lb.	.46	-
50% chlorine, same basis	lb.	.48	-
60% chlorine, same basis	lb.	.46½	-
70% chlorine, resinous, 50-lb. bgs, c.i., divd., Zone 1	lb.	.89	-

EQUIPMENT WANTED
GOOD, USED, CHEMICAL, PHARMACEUTICAL & RELATED EQUIPMENT - CENTRIFUGES, DRYERS, FILTERS, REACTORS, TANKS ETC.
WE WILL PURCHASE INDIVIDUAL ITEMS OR COMPLETE PLANTS.
CALL OUR OFFICE TODAY. TOP DOLLARS PAID. NO DEAL TOO BIG OR TOO SMALL.

SAVE **IDM** **SAVE**

COMPLETE PLANT AVAILABLE FOR SALE

AMMONIA

200 TPD
300 TPD
700 TPD

NITRIC ACID

120 TPD
130 TPD
150 TPD

250 TPD
760 TPD

SOY BEAN

900TPD
220 TPD

UREA

6100 CU. FT. HR

CHIP WASHING

450 TPD
550 TPD

AMMONIUM NITRATE

450 TPD
550 TPD

SAVE **SAVE**

ATTRACTIVELY PRICED

1 - Approx. 51 Sq. Ft.
Pfaudler, Wiped Film
Evapor. 316 SS wetted
parts ASME Coded.,
jacket rated 100 psi
w/internal vacuum.

Complete w/flange
mounted motor to
Pfaudler TW drive w/
mechanical seal, lubrica-
tor & integral heat
exchanger.

Call today for more
details.

FILTERS

Pressure Leaf

1-562 Sq. Ft., Artesian Kettle, 316SS
1-4 Sq. Ft. Lined, 316SS, 1.5 HP

1-562 Sq. Ft., 175" Sandvik 6500 psi
1-562 Sq. Ft., 100" Sandvik 6500 psi
1-48" dia. x 120" Blow Knox CI dia. drum
dryer

1-48" dia. x 28" drum flesker, chrome plated
1-48" dia. x 40" CI flesker, mfg. by Bullock
Foundry

1-48" dia. x 40" drum flesker, nickel plated
drum, mfg. by Bullock
1-48" dia. x 40" drum flesker, Blow-Knox

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dryer

1-48" dia. x 28" drum flesker, chrome plated
1-48" dia. x 40" CI flesker, mfg. by Bullock
Foundry

1-48" dia. x 40" drum flesker, nickel plated
drum, mfg. by Bullock
1-48" dia. x 40" drum flesker, Blow-Knox

1-1 Sq. Ft. Artesian Kettle, 316SS

1-4 Sq. Ft. Lined, 316SS, 1.5 HP

1-562 Sq. Ft., 175" Sandvik 6500 psi
1-562 Sq. Ft., 100" Sandvik 6500 psi
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1-1 Sq. Ft. Artesian Kettle, 316SS

PERRY SAVES YOU TIME & MONEY - The Right Equipment at the Right Price. World's Largest Dealer. Phone (609) 267-1600



DRYERS

BLAW Knox 6'4" x 40' 58 vac. dryer, 800 cu. ft.

Blaw Knox 38' x 20' vac. dryer 616L 58, 72 cu. ft.

Blaw Knox 6'4" x 38' vac. dryer, nickel

Mathis 24" x 36' 58" belt flaker, chrome plated

Sandvik 48" x 24" 58" belt flaker, UNUSED

Sargent 60" x 45' 58" conveyor dryer

Stokes 6" x 11" drum flaker

Stokes 32" x 60" abl. drum

Bufflovak 42" x 120' abl. drum, 160 psi

Aeromatic #6T-5 fluid bed dryer, 6/10 KO

Witts 30" x 70' fluid bed, 85' ambient-cooler

Stokes 38" x 70' fluid bed, 85' ambient-cooler

Rennbogen 38" x 20' rotary dryer, 316 SS

Rennbogen 38" x 20' rotary dryer, 316 SS

Abba 12" x 30", 316SS, Decanter, 20 HP

Bird 18" x 28", 316SS, Decanter (3)

SINS, 304L SS contacta, 1300 cu. ft. 0720 psi, 11'8" x 11'8" x 18" high, steel reinforced (2)

CENTRIFUGE, Bird 24" x 88", 304SS, Model 18 solid bowl continuous, 10 deg. conical bowl, Tungsten carbide tiles on conveyor, 160 HP, 2900 RPM bowl speed (3)

CHLORINATION SYSTEM, Wallace & Tiernan #V800 floor mounted modular chlorinator

COLUMN, 48" dia. x 15'8", 304SS wash columns, designed for agitation (2)

CYCLONE, UO Con Model 700/175 304SS high efficiency cyclones, size 210, Type VM (6)

DRYERS, Nester 4' x 14' rotary vac. dryer, 316L

SS shell and jacket, incoloy ribbon agit.

ASME 100 psi/FVnt. & jacket, 100 HP packaged Refine drive with freq. converter, Mech. seals, (8)

FEEDERS, Acrison, gravimetric weigh feeders, Model 403-15,000-3,000-SDF-4, 304 SS

Model SDF-4 volumetric feeder, Sizs "R" metering, sugar and disc cylinder, etc., etc... all SS contacts

EVAPORATORS, Sharples, Bird, DeLaval, etc.

24 cu. ft. Rodney-Hunt, 3H, 3P

21 cu. ft. Rodney-Hunt Turbifine #4, 3S

87 cu. ft. Rodney-Hunt, 304 SS, Turbifine

100 cu. ft. Pfaudler, 316SS, wiped film

600 cu. ft. Pfaudler, 316SS, wiped film

854 sq. ft. Bulleye dbl. effect, 68

1416 sq. ft. Vulcan 316SS

1688 sq. ft. Roger dbl. effect, 95

Swanson 316SS continuous crystallizer, 9" x 14"

12'8" L (4)

MIXER, Air mix blenders system, Koppers-Sprout

Walton #39-80, 500 cu. ft., 304SS, 8" x

19'10" w/403 sq. ft. dual collector (2)

MIXERS, Webb, 50" w x 15L twin shell paddle

mixers or pug mills, 304SS contacts, h/w 15

drive (2)

PACKAGING SYSTEM, design to fill bags, pallets, shrink wrap, etc. automated system.

PULVERIZERS, Mikro #4TH pulverizer, 25 HP

drive, (18)

PULVERIZERS, Mikro #4MP pulverizer, 125 HP

drive (5)

PULVERIZERS, Mikro #1SCS, 7/1 HP, with sh

lock & 304SS disc. chute

PUMPS, Able #H18-57-45 triplex pump, 60

GPM @ 1500 psi, 50 HP

PUMPS, Pasbathy #14DH-2 cooling tower

pumps, 2000 GPM @ 140' head, 100 HP

SHRINK WRAPPERS, CTX Prod. #P98V4X5

shrink wrap w/oven

48" Shriver ALP recessed, 1500 psi, ft.

2,000 psi. Pfaudler, 100 psi/vac., 90 psi/ht, 2700 psi.

AUTOCLAVES

Autoclave, Urea, 48" x 48", 100 psi, 316SS, 3200 psi,

Autoclave, 7' x 7' Sigma, 100 psi

Autoclave, 72" x 38" high, 316SS, 2200 psi

Autoclave, 30" x 48" Schneider methanol converter, forged, 316SS, 1000 psi, UNUSED

Stainless, 21" x 3" American, 58

Stainless, 20" x 10" x 36", 58 American

BINS, HOPPERS

8,000 cu. ft. steel, 48" x 48", bolted

1,050 cu. ft. 304SS, 6' x 18', plus cone (3)

450 cu. ft. 304SS, 6' x 18', 7' cone

375 cu. ft. 304SS, 6' x 18', 7' cone

270 cu. ft. 304SS, 6' x 18', 7' cone

93 cu. ft. 304SS, 6' x 18', 4' cone

5 cu. ft. stainless, 6' x 18', 4' cone

1 cu. ft. stainless, 6' x 18', 4' cone

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CMR MARKETPLACE

CHEMICAL MARKETING REPORTER'S CLASSIFIED ADVERTISING SECTION

COPY DEADLINE: Wednesday Noon preceding date of publication.

RATES/Classified Ad: \$57.75 for 36 words or less; \$9.75 for each additional six words or fraction. No display. First two words printed in bold face type. Non-display advertisements payable in advance, except for contract customers (not subject to agency commission).

REPLIES: Send replies to classified ads with box numbers to CHEMICAL MARKETING REPORTER, 100 Church St., New York, NY 10007-2694.

INFORMATION: For further classified advertising information, call 212/732-9820.

CHEMICALS OFFERED

Overpack Drums 85 gallon used steel drums with rings and covers. Can hold a 55 gallon drum. Tel: 514-658-8228 or 569-9583 Telex 65-31545.

CHEMICALS WANTED

Active Buyer of surplus chemicals, pigments, dyes, resins, waxes, plastics etc. Call toll free 1-800-631-3337 or 617-520-6738. Oser Polymer Corp. Chemical Div. 17 Industrial Drive, Holden, MA 01820.

All Surplus - Chemicals - Resins - Oils - Colors - Solvents - Plastics - Specialties - Intermediate - bought by Rembach Chemical Co. Inc. 52 Vassar Street, P.O. Box 5187, Newark, NJ 07105. Phone: (201) 569-7774.

Cash For your surplus chemicals, resins, colors, pharmaceuticals, dyes, other raw materials, by products, wastes, residues and off-spec materials. Morgan Chemicals Inc., 5500 Main Street, Williamsville, NY 14221 (716) 832-4000; Telex 618133.

Resale Top Value from the sale of your surplus Chemicals. We buy surplus Chemicals, Plastics, Resins, Waxes, etc. Bonmar Chemical Co., P.O. Box 464, Fair Lawn, NJ 07410. Phone: (201) 761-2448; Telex: 13-0434.

Rasen Corp. will buy your surplus chemicals, resins and resin raw materials, plastic or off-spec. Rasen Corp., P.O. Box 83, 1640 W. Blawie St., Linden, NJ 07036. (201) 862-8787.

Surplus Chemicals: Wanted, high press-ped-for-superior chemicals, resins, pharmaceuticals, colors, plasticizers, solvents, waxes, etc. Prompt and efficient service. Try us for better prices. Chemtasia Inc., 107-27 180th Street, Jamaica, N.Y. 11433. (718) 656-0400-01.

Surplus Wanli: Chemicals, pharmaceuticals, dyes, solvents, resins, waxes, other raw materials. Over 85 years service Chemical Service Div., P.O. Box 848, 67-05 Ongley St., Rockville Centre, NY 11571. (516) 536-5533.

Wanted - Phenylmercuric borate in sealed containers, any quantity up to 100 kg. Altena Inc.-Mr. Olaf C. 818-454-7877.

We Buy Surplus chemicals, colors, solvents, plasticizers by-products, etc. Over 50 years of service to industry. Eastern Color & Chemical Co., Inc. 86 Rockwell Ave., Dept. C.P.O. Box 1028, Valley Stream, N.Y. 11582. (516) 781-4445.

Your Surplus is our inventory. We buy all chemicals, pigments, resins, solvents, plasticizers and pharmaceuticals. Prompt inspection and cash for your on each offering. Pyramid Chemical Sales Co., 1035 Virginia Drive, Fort Washington, PA 19034. (215) 542-8282.

EQUIPMENT OFFERED

Chemtasia has used process equipment for sale: Columns, Exchangers, Heatex, Reactors, Pressure Vessels, Tanks, etc. Midway Steel Co., Inc. 8020 Moore Road, Houston, TX 77075. 713-991-7945.

For Sale - Completely reconditioned. Sharples P-3000 Super O centrifuges. Call for information, price, 316-281-7200.

Tanks For Sale: 518 Glass & Epoxy lined Tanks up to 57,000 gal. ss. from Milwaukee and Detroit. Sacrifice price! Free list: Braerly Works, Box 1467, Milwaukee, WI 53201-1467. (414) 272-1707.

81685 Sharples 48" centrifuge, vapor light, 100HP, sealed speed, auto flow, 0-970RPM basket speed: St. Regis packaging equipment with scale, plow bottom closure and conveyor, 20 cu. ft. w/o, double cone, glass lined vacuum dryer, excellent cond.: 42" x 32" Sandvik 88 bec conveyor with new spare belt. Call Bill Dawson (803) 788-7180.

POSITIONS OFFERED

Chemical Sales. Midwest sales position for fine chemicals to food, pharmaceutical and industrial accounts. Some distributor/direct accounts. Degree required, chemistry preferred. Two to five years sales experience, 50% travel. Competitive salary, excellent benefits, full travel and expenses, company car or car allowance. Replies held confidential. Please submit a full resume of job history and qualifications to Box OMR-711.

POSITIONS WANTED

Former President International chemical trading company with vast experience. Walkaround major contacts throughout world. Reply CMR Box 712.

SERVICES OFFERED

Custom colloid packaging and distribution in the port of Mobile. Multi-wall bags, bulk bags, drums and bulk, Screening, repackaging and warehousing. Rail and truck facilities. Contact: Philip Henn, SEACAP, Bldg. 14A, Brooklyn Complex, Mobile, AL 36616. 205/433-5641.

ULTRAMATINE PIGMENT Whittaker Clark & Dunlap 540 lbs (56,720 lbs) (American Oliot) Flatbush, 7/2, VANDA PENTOXIDE Novo Chino Trigo 700 lbs (30,044 lbs) (American Mann) Kobe, 7/1.

VANILLA A P Pintado 1,000 cs (0 lbs) (Ever Gulef) Kintam, 7/2.

VILLIN Order 380 dms (46,652 lbs) (Yu He) Delian, 7/2.

VITAMIN ABCORIC ACIO Amagasaki Metal 660 kgs (42,878 lbs) (American Mann) Kobe, 7/1.

VITAMIN B 12M G Transport Warehouse 200 dms (11,484 lbs) (American Chemical) Rotterdam, 7/16.

VITAMIN B & Croymer Chemical 80 ams (6,118 lbs) (Yu He) TAIWAN D THIAMINE Daniel F Young 40 dms (2,648 lbs) (Yu He) Hsinchu, 7/2.

VITAMIN E Phenol Poulose 2,843 ams (18,182 lbs) (Alva Marini) Marsella, 7/2.

Order 208 mix (44,688 lbs) (Ever Lyric) Lo Havre, 7/1.

YEAST Nucleo 400 dms (44,688 lbs) (Ever Lyric) Lo Havre, 7/1.

ZINCUMI BISULFITE American Metalco 700 lbs (72,704 lbs) (Alvarez) Rotterdam, 7/2.

ZIRCONIUM OXIDE Magnesium Elektron 180 dms (40,673 lbs) (Kohn Express) Greenock, 6/30.

TRIENYL PHOSPHATE Order 1,250 dms (73,646 lbs) (Almico Company) Unocal 6,000 dms (54,000 lbs) (Yu He) Hsinchu, 7/2.

TRISODIUM PHOSPHATE Novo Chino Trigo 700 lbs (30,044 lbs) (American Mann) Kobe, 7/1.

TRITON X-100 Order 380 dms (46,652 lbs) (Kohn Express) Greenock, 6/30.

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TRITON X-100 Order 380 dms (46,652 lbs

CHEMICAL PROFILE

a-Methylstyrene

AUGUST 18, 1986

SUPPLY

PRODUCER	CAPACITY*
Allied, Frankford, Pa.	25
BTI, Blue Island, Ill.	4.5
Georgia Gulf, Bound Brook, N.J.	5
Georgia Gulf, Plaquemine, La.	10
Texaco, El Dorado, Kan.	2.5
USX, Haverhill, Ohio	32
Total	79

*Millions of pounds annually of alpha-methylstyrene (AMS) recovered as a byproduct of phenol-acetone operations. Allied and USX can produce refined, 99 percent pure material. Georgia Gulf upgraded its facility in July and now has the option of producing fully refined material. The other producers make semi-refined, or 95 percent pure material. BTI acquired its AMS facility from Clark Chemical Corporation, in October 1985. Georgia Gulf restarted its Bound Brook phenol-acetone facility last February after a shutdown of one year. The company brought on 2 million pounds of additional capacity at Plaquemine in July 1985 in conjunction with expanded phenol-acetone output at the site. Texaco acquired Getty's El Dorado unit in a July 1984 merger. USX reduced its annual capacity by 8 million pounds when it enhanced its phenol yield at the Haverhill unit in April 1985. Amoco produces more than 34 million pounds of AMS annually as part of its continuous process for the manufacture of the company's proprietary polymer, "Resin 18." Profile last published 8/29/83; this revision 8/18/86.

DEMAND

1985: 48 million pounds; 1986: 49 million pounds; 1990: 54.5 million pounds.

GROWTH

Historical (1976-1985): 2.2 percent per year; future: 2.5 percent per year through 1990.

PRICE

Historical (1956-1986): High, 44c. per pound of refined product, tanks, works; low, 12c. per pound, same basis. Current: 26c. per pound same basis.

USES

ABS resins, 38 percent; adhesives and waxes, 13 percent; polyester resins and miscellaneous, 9 percent; exports 40 percent.

STRENGTH

ABS resins are a key growth area for AMS with growth pegged around 3 percent annually. Export values have firmed along with the strengthening dollar.

WEAKNESS

The entry of Georgia Pacific as a producer of 99-percent-purity material adds a potential of 8 million pounds of supply to the refined market. Prior to Georgia Gulf's upgrade, supply totalled 57 million pounds with a demand of approximately 45 million pounds in 1985.

OUTLOOK

ABS resins are expected to grow by 3 percent annually while all other AMS end uses are pegged for 2 percent annual growth for the next five years. While AMS is a byproduct of larger and more essential acetone-phenol operations its future may improve under the following scenario: New phenol-acetone plants produce little if any AMS and debottlenecking efforts tend to reduce AMS output. This could lead to tighter supplies worldwide, and improved returns on exports.

BOOKSHELF

Petrochemical Who's Who

The DeWitt & Co. world petrochemicals directory* is bigger and better this year. The Houston consulting and market research firm has put out the fourth edition of its directory in two volumes, one a commercial edition and the other an information services edition. Primary reason for separating the two editions is to make the directory more compact. There is no overlapping of individual listings between the two editions, DeWitt says.

The commercial edition of the directory is designed as a tool for commercial people in the petrochemical industry and puts emphasis on those who have authority to conduct business. The volume includes more than 2,000 company locations and over 4,000 names of individuals active in the international, commercial petrochemical business.

The information services edition is designed for use by people in the consulting, planning and market development end of the petrochemical business. Again, listings include over 2,000 company locations and more than 1,500 names of individuals active in the international petrochemical business.

In the back of each volume is an alphabetical listing by individual's name, plus useful data on yield factors for converting basic petrochemicals to derivatives, properties of selected chemical compounds, energy conversion factors and light hydrocarbon fuel values and useful constants and conversions.

*WHO'S WHO IN BASIC PETROCHEMICALS. Two volumes. Paper. 422 pages. 8 1/2 X 11 inches. DeWitt & Co., 16800 Greenspoint Park, North Atrium, Suite 120, Houston, Tex. 77080-2386. \$75 per volume in the US; \$60 per volume outside the US.

Chemicals Handbook

This handbook* of chemical production processes contains current information and descriptions of the various technologies involved in the production of major organic and inorganic chemicals and polymers.

Thirty-nine specialists have contributed authoritative material that provides a detailed treatment of the world's licensable chemical process production technologies. The contributors are engineers and scientists from the nineteen different firms that are the licensors of the individual processes, including companies from the US, the UK, the Federal Republic of Germany, Japan and the Netherlands.

Each process chapter examines the process chemistry and thermodynamics involved, the product and byproduct and byproduct specifications, wastes and emissions, and the locations and specifications of all plants. Both capital and operating costs are given for each process, and a general description of the process typically includes charge and product yield, purity and a simplified flow diagram.

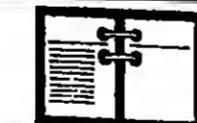
HANDBOOK OF CHEMICALS PRODUCTION PROCESSES. Edited by Robert A. Meyers. Cloth. 6 1/2 X 9 1/2 inches. 484 pages. McGraw-Hill Book Company, 1221 Avenue of the Americas, New York, N.Y. 10020. \$69.50.

Patent Law

This practical volume* explains current patent law without resorting to confusing legal jargon. It is written specifically for engineers and other technical people who are involved in developing and using technology commercially. However, since it is an overview of protecting intellectual property, it can be used by anyone who is not limited to any particular industry. The author explains the underlying reasons and philosophy of having a patent system. He outlines the crucial distinctions between patents, trademarks, copyrights and trade secrets.

*PATENT LAW FOR THE NON-LAWYER. By Burton A. Amerineck. Cloth. 8 1/2 X 11 1/2 inches. 177 pages. Van Nostrand Reinhold, 115 Fifth Avenue, New York, N.Y. 10003. \$34.95.

MEETINGS CALENDAR



AUGUST 18, 1986

THIS MONTH

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Summer national meeting, Sheraton Boston Hotel, Boston, Mass., August 24-27.

LATER ON

AMERICAN CHEMICAL SOCIETY, 192nd annual meeting, Anaheim Convention Center, Anaheim, Calif., September 7-12.

AMERICAN MICROCHEMICAL SOCIETY, eastern analytical symposium, jointly with American Chemical Society and Society for Applied Spectroscopy, New York Hilton Hotel, New York, October 20-24.

AMERICAN PETROLEUM INSTITUTE, annual meeting, San Francisco, Calif., November 5-11.

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS, 100th international meeting and exhibition, The Regency Hotel, Scottsdale, Ariz., September 15-18.

ASSOCIATION OF THE NON-WOVEN FABRICS INDUSTRY, eighth international conference and exhibition, Georgia World Congress Center, Atlanta, Ga., October 21-23.

CANADIAN CHEMICAL PRODUCERS ASSOCIATION, International symposium on transportation emergency response, Vancouver, B.C., Canada, September 14-18.

CHEMICAL GROUP, NATIONAL ASSOCIATION OF PURCHASING MANAGEMENT, Fall Conference, Marriott Pavilion Hotel, St. Louis, Mo., October 21-23.

CHEMICAL MARKETING RESEARCH ASSOCIATION, world chemical congress, jointly with the chemical marketing and economics division of the American Chemical Society. "The Chemical Industry: Where in the World Is It Going?" Newporter Resort Hotel, Newport Beach, Calif., September 7-10.

EUROPEAN PETROCHEMICAL ASSOCIATION, annual meeting, Monte Carlo, Monaco, September 18-October 1; distribution meeting, October 19-October 22.

FERTILIZER INSTITUTE, world fertilizer conference, "Global Trading Patterns," Hyatt Regency Hotel, San Francisco, Calif., September 14-18.

FERTILIZER ROUND TABLE, Sheraton Inner Harbor Hotel, Baltimore, Md., November 17-18.

FIRE RETARDANT CHEMICALS ASSOCIATION, Fall conference on proper processing and selection of fire retardants, Kauai Island, S.C., October 18-22.

FRACTIONATE MATERIALS ASSOCIATION,秋, 1986, 10th international congress of the United States, 10th international congress of esterification, fragrances and flavors, Omni Shoreham Hotel, Washington, D.C., November 18-20.

CONFERENCE BOARD, business outlook conference, Washington, D.C., August 18, 1986.

Waldorf-Astoria Hotel, New York, September 24-25. COUNCIL FOR CHEMICAL RESEARCH, annual meeting, Northwestern University, Evanston, Ill., September 28-30.

COUNCIL FOR RESPONSIBLE NUTRITION, annual meeting, "Health Messages: New Directions and New Opportunities," J.W. Marriott Hotel, Washington, D.C., September 7-10.

NATIONAL ASSOCIATION OF CHEMICAL DISTRIBUTORS, 85th annual meeting, Ritz-Carlton-Naples Hotel, Naples, Fla., December 2-4.

NATIONAL PAINT & COATINGS ASSOCIATION, 89th annual meeting, Atlanta Hilton Hotel, Atlanta, Ga., November 5-8.

PULP CHEMICALS ASSOCIATION, 13th international naval stores meeting, Waldorf-Astoria Hotel, New York, September 15-17.

SOCIETY OF CHEMICAL INDUSTRY, chemical industry media dinner, Plaza Hotel, New York, October 15.

SOCIETY OF THE PLASTICS INDUSTRY, plastics show and conference — South, jointly with the Society of Plastic Engineers, Georgia World Congress Center, Atlanta, Ga., October 8-10.

SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSOCIATION, OSHA compliance trade fair and symposium, Intercontinental Hotel, New Orleans, La., September 25-26.

JOB & PEOPLE

Eastman Chemical Fills Two International Posts

Eastman Chemical Products Inc. has appointed James L. McGee and James C. Haas to new international marketing posts.

Mr. McGee has been named marketing manager for Asia and Australia. He was previous district marketing manager for Eastman Chemical International Ltd. in Hong Kong.

Mr. Haas, who succeeds Mr. McGee as Hong Kong district marketing manager, was previously an international marketing specialist.

John G. Jedel, who has been named vice-president for worldwide planning and development for Akzo Chemicals. He has also been named senior vice-president of Akzo Chemical America.

CRAIG R. KENWORTHY has been named technical representative for the Mid-Atlantic area by S.P. Morell & Co. JOHN M. BATT has been appointed marketing manager for Atchem Inc.'s "Forex" brand of halon fire extinguishants ... FRANK J. WUERTZ has been appointed director of business planning for the Specialty Chemicals Division of Lonza Inc.

DAVID M. TRUAX has been named vice-president of sales for Betz PaperChem Inc. ... BRUCE E. STREETER has been appointed technical manager of insulated glass sealant in the Morton Chemical Division of Morton Thiokol Inc. ... THOMAS C. CEITAMI has been named branch manager in Shreveport, La., for industrial gas division sales at Air Products & Chemicals Inc.

ANDREW J. POLO has been appointed corporate traffic manager at Degussa Corporation ... DAVID PASHALDIS has been appointed manager of investor relations at Dow Chemical Company.

MICHAEL D. MILLER has been appointed Midwest account executive for A-C Polyethylene, a unit of Allied-Signal Inc. ... RALPH G. COKER has been named general manager of Coastal Refining & Marketing Inc.'s Corpus Christi, Tex., refinery ... THOMAS HITTNER has been appointed

pointed business manager for polyethylene. NUNZIO F. POLLIFRONE has been named monomer production supervisor in the ICI advanced materials group of ICI Americas Inc. RONALD J. MAITOZA has joined the marketing department of the ICI agricultural products group as a technical sales representative for the Pacific Southwest district. JOSEPH FIORE III has been appointed development chemist for Rubicon Chemicals Inc., an ICI unit, and LOVHAR KLINCKE has been named technical service representative for Rubicon.

MICHAEL F. HOBEN has been appointed director of pension fund investment services at Union Carbide Corporation ... ROBERT J. DELUCCIA has been named corporate director and division vice-president of the newly formed ethical medicines strategy group of Sterling Drug Inc. ... PAUL J. CLARK has been elected treasurer of Penwalt Corporation.

F. Wuerz, D. Truax, C. Kenworthy, J. Haas, A. Polo, D. Pashaldis, K. Preglow, J. McDonald, R. Hurst, L. Laufenberg, J. Carami, T. Streeter, and J. Reid.

Ralston Purina Names Two in Polymers Division

Ralston Purina Company has appointed Lucy G. McDonald market research analyst in its Polymer Division and Robert F. Hurst technical sales representative in the division.

Miss McDonald joined the company in 1978 in the Chow Division and transferred to the Protein Division in 1980.

Mr. Hurst joined the company's Raltech Science Service Division in 1977 and transferred to the Polymer Division in 1979. He was most recently field technical service engineer.

L. McDonald, R. Hurst, J. Reid, J. Carami, T. Streeter, and J. Haas.

KENT SNYDER has been named director of licensing at Marion Laboratories. JAMES D. LAUFENBERG has been appointed director of sales for the Wound Care Division and JOSEPH P. LACE has been named director of pharmacology for Marion Labs.

A. Polo, D. Pashaldis, K. Preglow, J. McDonald, R. Hurst, L. Laufenberg, J. Carami, T. Streeter, and J. Reid.

EASTMAN CHEMICAL PRODUCTS Inc. has relocated its operations to a new building in Alpharetta, a suburb of Atlanta. The new facility will "significantly expand" the production capacity of the company's flavor and fragrance operations in Brazil, the company says.

PPM TECHNOLOGIES, Boston, Mass., has completed a new production facility for aromatic polyesters. The products will be sold mostly to the semi-conductor industry. They offer the lowest level of impurities available, according to PPM. The acids are available in 500-gallon-lined tanks, drums and bottles of various sizes.

PHYSICHEM TECHNOLOGIES, Austin, Tex., has introduced a new line of top-of-the-line products for industrial and municipal water treatment. The products are manufactured by McCallum & Benton Inc. will represent the company in the South.

NMS PHARMACEUTICALS Inc.'s Syntex Inc. subsidiary has filed U.S. patents covering the use of new, penetrating antibiotics for pharmaceutical and veterinary applications.

The subsidiary was formed this year to develop products for controlled drug-delivery systems, using new and proprietary methods for the transmission of drugs through the skin and other membranes.

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